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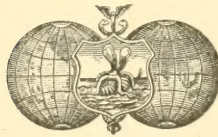
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THE  
MONTHLY CYCLOPÆDIA  
(OF  
PRACTICAL MEDICINE  
AND  
Universal Medical Journal.)

EDITED BY  
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PHILADELPHIA.

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# THE MONTHLY CYCLOPÆDIA OF PRACTICAL MEDICINE.

Vol. XIV.  
Old Series.

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## Cyclopædia of the Year's Literature.

### ACNE.

**Etiology of Necrotic.**—As the result of laboratory-work on necrotic acne, Sabouraud<sup>1</sup> reaches the following conclusions: 1. Necrotic acne is a peri-folliculitis of the upper portion, with extension at the same time superficially

and into the deeper parts, terminating in necrosis of all tissues invaded and in a depressed, variola-like cicatrix. 2. The lesion exacts for its centre a follicle previously infected by the microbacillus of

<sup>1</sup> Annales de Dermat. et de Syph., Oct., '99.

fatty seborrhœa. 3. This affection is produced by a yellow staphylococcus, whose presence in a pure state is constant and abundant in the lesion from beginning to end. 4. This staphylococcus is not to be distinguished by present methods of technique from the common staphylococcus aureus. 5. This fact, taken in connection with the attentive observation of the various clinical forms of necrotic acne, tends to bring into the same group (a) the peripapillary impetigo of Bockhart; (b) impetigo pilaris of the adult; (c) true necrotic acne. While the treatment of an acute outbreak is simple, usual methods are absolutely powerless to prevent recurrences. In reality the treatment of recurrent necrotic acne runs into that of micro-bacillary fatty seborrhœa, which is its constant and indispensable substratum.

**Treatment.**—In resistant cases of acne Levisseur<sup>2</sup> uses iodide of potash in 5-grain doses three times a day in milk. When a moderate iodism, showing itself in urticarial lesions, is produced, and when the urine gives traces of iodine, the iodine medication should be discontinued, and local treatment substituted.

Ichthyol is recommended by Jessner<sup>3</sup> as an excellent sulphur preparation for the treatment of acne, as it has a valuable influence on the constitution. It is to be given in the form of a concentrated solution, or inclosed in capsules, or in pill form. The solution is made of equal parts of ichthyol and water, and is given in doses of from 20 to 30 drops three times a day, largely diluted with water, after meals. If capsules are employed, those containing from  $4\frac{1}{2}$  to  $7\frac{1}{2}$  grains of ichthyol may be given, one to be taken three times a day. Pills may be made by means of powdered licorice-root and extract of licorice,  $\frac{1}{2}$  ounce being made up into one hundred pills,

of which 2 are to be taken after each meal.

Ichthalbin, an almost tasteless and odorless preparation of ichthyol, may also be used in daily quantities of 1 drachm. All remedies exhibited should, however, be given for at least three months interruptedly.

According to W. A. Hackett,<sup>4</sup> the treatment of acne vulgaris requires both local and general measures. Treatment may be commenced by giving a strong keratolytic ointment, such as the following:—

R Sulphur. præcip.,  $1\frac{1}{2}$  drachms.  
Resorcin., 1 drachm.  
Acidi salicylici,  $\frac{1}{2}$  drachm.  
Vaselin., 1 ounce.

M. Sig.: Apply at bed-time after scouring the face with tincture of green soap and hot water.

In the morning the ointment should be washed off and cold cream or some dusting-powder applied during the day.

The above ointment is best made by melting the resorcin in the vaselin. When this has been applied for a few days the skin becomes more or less inflamed and scaly. If the inflammation becomes too intense, the strength of the ointment should be reduced. This preparation should be applied every night for a month or six weeks, according to the severity of the case.

The next indication in the treatment of this disease is the removal of the comedones and the lancing of papules, nodules, and pustules. At first this treatment is required twice a week, but soon once a week and then once a fortnight will be found sufficient.

<sup>2</sup> Med. Record, Nov. 11, '99.

<sup>3</sup> Dermat. Vorträge f. Prakt., 11, '99.

<sup>4</sup> Physician and Surgeon, Sept., '99.



When the face is improved so that only a few papules are appearing, then all that is required is an antiseptic wash, such as 1 in 1000 of formaldehyde or 1 in 500 of bichloride of mercury.

The constitutional treatment will depend upon the nature of the systemic disturbances. Tea, coffee, and alcoholic beverages are, as a rule, contra-indicated. Iron, strychnine, and arsenic are very useful in many cases wherein anæmia and debility are present, but arsenic is contra-indicated when the lesions are very irritable. Codliver-oil will be found useful in patients suffering from scrofula. Active exercise and plenty of fresh air are two good tonics to be recommended to patients suffering from this disease. Cold sponging of the whole body every morning, followed by rubbing with a coarse towel, is also of value.

## CYSTITIS.

**Diagnosis and Etiology.**—E. C. Dudley<sup>5</sup> summarizes his study of cystitis as follows: 1. The conditions which were formerly considered the prime causes of cystitis have receded to their proper place, and must be estimated only as predisposing causes. 2. The recognition and appreciation of pathogenic bacteria as the exciting causes of cystitis is essential to a scientific understanding of its pathology, etiology, and treatment. 3. Alkalinity of urine depends on the action of certain bacteria, notably the proteus vulgaris, in the decomposition of urea. The bacillus coli communis, which is one of the most frequent causes of cystitis, is one of the class which does not decompose urea, and therefore does not produce ammoniacal urine. Contrary to the older opinion, alkalinity is not the rule; on the contrary, in the majority of cases the urine remains acid. Alkalinity, if present, is often the work of microbes

secondarily introduced. 4. The classical symptoms of vesical pain, frequent urination, and pus in the urine are wholly inadequate as a basis of the diagnosis of cystitis. Moreover, the condition called cystitis has receded from the rank of a distinct disease to that of a symptom, and should be so regarded. The mere recognition of the fact that cystitis exists is not a diagnosis. 5. The diagnosis must comprehend not only the presence of infection in the bladder, but it must embrace the source, routes, type, and complications, and the variety of the inflammatory reaction. Simple uncomplicated inflammation of the bladder is rare. 6. The endoscope and cystoscope can alone open the way to efficient exploration and diagnosis, can alone define the indication for topical or surgical treatment, but, more essential, can alone prepare the way for the examiner to distinguish between cystitis and a wide variety of other urinary affections of the bladder, urethra, ureter, and kidney.

George T. Howland<sup>6</sup> declares: 1. Cystitis is always caused by the presence of bacteria. 2. The mere presence of bacteria is insufficient to cause cystitis; a further predisposing cause is necessary. 3. Under favorable conditions any pathogenic organism may give rise to cystitis. 4. The entrance of pathogenic organisms into the bladder may be through the urethra, through the ureter from an infected kidney, from inflammatory areas in the neighboring parts, and through the blood-stream and the lymphatics.

Cystitis may be classified bacteriologically as (a) bacillus-coli-communis infection, (b) saprophytic [mixed] infection, (c) staphylococcic infection, (d) streptococcic infection, (e) streptococcus-

<sup>5</sup> Canada Lancet, Aug., '99.

<sup>6</sup> Med. News, July 15, '99.

erysipelatos infection, (f) typhoid-bacillus infection, (g) diplobacillary infection, (h) gonococcic infection, and (i) bacillus-of-tuberculosis infection.

Senn<sup>7</sup> regards this bacteriological classification as the most modern, the most important, and the most useful to the surgeon, since it suggests the rational course to pursue in treatment. In all long-standing and obscure cases of cystitis a careful bacteriological examination of the urine should be made by the surgeon or by a competent bacteriologist.

**Treatment.**—In cystitis E. C. Dudley<sup>8</sup> states that one should not wash out the bladder as a routine measure. The injection of disinfectants is indicated only in general or nearly general cystitis. For localized cystitis direct applications to the part affected should be made through the endoscope. Dilatation of the urethra is indicated for localized cystitis at or near the neck of the bladder. The efficiency of this procedure for such localized cystitis has given it an undeserved recognition in the treatment of general cystitis, which, under cystoscopy, it cannot retain. The most valuable disinfecting topical application in cystitis is the nitrate of silver.

G. T. Howland<sup>9</sup> considers that acute cystitis is best treated by rest in bed. Free catharsis should be established in every instance, and the patient should have one or more watery movements of the bowels during each twenty-four hours. This is best accomplished by the administration of sulphate of magnesia every second or third day. If pain (tenesmus) is severe a narcotic is indicated. A method used with very good results when pain on urination is severe is to instill a few drops of a 4-per-cent. solution of cocaine, and after a few minutes from 10 to 15 drops of a 6-per-cent. solution of nitrate of silver. Another

procedure from which good results are obtained is the use of rectal irrigation of hot water for ten to fifteen minutes, followed by a hot enema of 25 to 30 drops of tincture of opium in 4 to 6 ounces of warm starch-water. Suppositories of opium are useful in allaying pain, the following being of value:—

℞ Ext. hyoseyami, 1 grain.  
Camphoræ monobrom., 2 grains.  
Morphinæ. sulphat.,  $\frac{1}{2}$  grain.  
Cocoa-butter, q. s.

The diet should be bland, during the acute stage nothing but milk and Vichy, 4 ounces of each, being administered every two hours. Of drugs, urotropin in 5-grain capsules, four times daily, has personally given the best results.

The bladder should never be washed out during an acute attack of cystitis as long as the urine remains bland and the bladder is emptied at each act of urination; but, as soon as the urine presents any evidence of undergoing decomposition, irrigation should be begun at once. For this purpose a warm 2-per-cent. solution (100° to 105° F.) of boric acid or ichthyol may be used to good advantage. One of the best formulæ for irrigation is that introduced by Lobingier, viz.:—

℞ Boric acid, 1 drachm.  
Borax, 30 grains.  
Sodium chloride, 15 grains.  
Aquæ, 2 pints.

The irrigation can be performed through a double-current catheter or a meatus-nozzle, after the method suggested by Janet, of Paris.

Heubner<sup>10</sup> has had excellent results from urotropin in cystitis in children.

<sup>7</sup> International Clinics, vol. ii, Eighth Series, '99.

<sup>8</sup> Canada Lancet, Aug., '99.

<sup>9</sup> Med. News, July 15, '99.

<sup>10</sup> Centralb. f. d. Gesamte Ther., Apr., '99.



In one case of a 10-year-old boy, suffering from gonorrhœal cystitis, which has lasted for several years without yielding to other forms of treatment, urotropin was successfully given for about seven weeks in doses of 3 grains five times daily.

The drug should be kept up for some time after apparent cure and without intermission. The daily dose varies between 8 and 30 grains.

### EPILEPSY.

**Diagnosis.**—Lannois and Carrier<sup>11</sup> have conducted a clinical study on a recently-observed phenomenon: *i.e.*, analgesia of the ulnar nerve (Biernacki's sign) in the epitrochlear space, between the internal condyle of the humerus and the olecranon. One hundred and thirty epileptics, including 80 females and 50 males, were observed. Of the 80 females, 40—50 per cent.—showed normal ulnar-nerve symptoms on both sides. In 11 cases, 23 per cent., there was diminished sensibility on both sides. Normal sensibility of one side only was present in 9 cases, while there was complete analgesia on both sides in 14 cases, and complete analgesia on one side in 10 cases. Thus, there were 55 per cent. normal nerves, 20 per cent. with diminished sensibility, and 24 per cent. with complete analgesia. In 50 male epileptics 58 per cent. showed normal sensibility, 28 per cent. diminished sensibility, and 14 per cent. were analgesic. This symptom should not be considered as one of the stigmata of epilepsy. As a helpful sign in the diagnosis of hysteria from epilepsy, however, it may have some value.

Examinations of the urine in epilepsy have been made by Edwin G. Klein,<sup>12</sup> the urine of 23 patients—12 women and 11 men—being collected as soon after a seizure as possible. The time of collec-

tion varied from ten minutes to five hours, the average being about an hour and a half. Contrary to the statements in most text-books, very little polyuria was observed. The specific gravity ranged from 1.007 to 1.026, the average being 1.020. The color varied from a pale straw to amber, mostly the latter. The reaction was acid in all but 2 cases. In the latter it was alkaline, and had been collected during what Haig terms the "alkaline tide." Albumin was present in faint traces in 15 of the 23 cases. In 6 out of 10 examined during an interval between seizures the chlorides were present in normal quantity, while in the 4 others they were decreased. Glucose was not found in any of these cases.

**Treatment.**—N. Cullinan<sup>13</sup> considers it to be of the highest importance in the treatment of this, as of all other affections, that the patient receive especial attention in regard to diet and exercise, as well as to the different functions of the body. As to diet, the lightest and most assimilable forms should be ordered in quantities sufficient to sustain nature while not unduly taxing any organ of the body. The food should be administered regularly in moderate quantities, and alcoholic drinks should be altogether prohibited. The latter are particularly injurious. Meat should be allowed not more than once a day, and then at mid-day, and the patient should not retire to rest until gastric digestion is complete. Plenty of exercise, but not sufficient to produce exhaustion, is to be commended. If from any cause the patient cannot take exercise, it may be supplemented by massage. The different secretions and excretions of the body

<sup>11</sup> Revue de Méd., Nov., '99.

<sup>12</sup> N. Y. Med. Jour., Dec. 30, '99.

<sup>13</sup> N. Y. Lancet, Dec., '99.



should be carefully looked after and attended to, and the mind of the patient must be kept pleasantly occupied, and any condition or cause tending to produce depression or mental worry should be especially avoided. A cold bath or tepid sponging of the body under supervision acts as a good tonic to the entire system. The drug personally found to act most surely and effectually is the bromide of strontium, given in variable doses, to suit the age and condition of the patient, in combination with syrup of orange-peel and infusion of calumba, and, if no irritability of the stomach exists, 10 grains of borax may be added to each dose. An aperient—a blue pill followed by a Sedlitz powder—acts beneficially. The dose of the bromide usually given is 1 drachm for an adult four times a day after a light meal, and proportionate doses for children.

Louis Hasle,<sup>14</sup> after careful clinical observations made with bromide of camphor in the treatment of epileptics at Bicêtre, obtained the following very constant results: 1. As regards epilepsy proper (*haut mal*), the action of bromide of camphor was doubtful, and was less effectual than the mixed bromides of potassium, sodium, and ammonium. 2. In attacks of *petit mal*, and in all cases of epileptic vertigo, however, its effect was incontestable; it at first diminished the frequency of the vertiginous attacks, and finally made them disappear altogether. The condition to be observed in prescribing is to begin with moderate doses, made gradually progressive, and lasting for a sufficient time. Owing to its disagreeable odor, it is best taken in capsules of 3 grains, or *dragées* of  $1\frac{1}{2}$  grains, beginning with 2 capsules *per diem*, and augmenting by 2 capsules the second week, etc., till 8 capsules *per diem* are taken, then as gradually diminishing the

dose till 2 capsules *per diem* are reached and maintained for some time.

Fletcher Beach<sup>15</sup> finds that in a large number of cases of epilepsy the presence of fits prevents the patient from obtaining or continuing at work, and in such cases treatment at a colony should be tried. Life in the open air is absolutely necessary for epileptics. Regular employment is also most important. As is usual in asylums for the insane and for the imbecile, the kind of work given to the colonist is, as far as possible, that to which he is most accustomed, although out-of-door employment is carefully attended to. As regards the colonists, the women appear to do better than the men, but the effects of the system are most marked in youths of from fifteen to eighteen years of age. The reason of this is that they are admitted at an early stage of the disease, and improve in their physical condition, while the fits diminish in frequency.

William P. Spratling<sup>16</sup> says that the early treatment of reflex epileptic phenomena is of great importance. Many cases of nocturnal epilepsy pass unrecognized until far advanced. Out of 485 persons admitted to the Craig Colony, 83 per cent. had developed the disease before the age of 20 years, and 20 out of a series of 145 had given manifestations of the disease as early as the sixth month of life. Before making a prognosis or instituting treatment it is well most carefully to consider the ancestry. Drugs, the chief object of which is to suppress the convulsive phenomena, should not be given to young subjects, for such treatment not only is liable to mask the disease, but experience has

<sup>14</sup> Thèse de Paris, '99.

<sup>15</sup> Treatment, Oct. 12, '99.

<sup>16</sup> Med. Record, Oct. 28, '99.

shown that it will seriously impair the digestive and assimilative functions. It is wrong to operate upon an epileptic brain after an injury and years of convulsive seizures. A study of the aura, which is the "sign-post" to the treatment, is important. The colony plan allows of the entire and much-needed control of all the habits of life of the individual. The diet should be simple and nutritious, and taken in moderate quantity; tobacco should be indulged in moderately, and the whole mode of life should be completely, though gradually, changed.

Operation on the cervical ganglia of the sympathetic for epilepsy, glaucoma, and exophthalmic goitre is performed by Emory Lanphear<sup>17</sup> as follows: An incision is made from the tip of the mastoid to the acromion, and the sterno-cleido-mastoid muscle is quickly exposed, the external jugular being ligated and cut. The upper part of the sterno-cleido-mastoid may have to be split. The great vessels and pneumogastric are then exposed by blunt dissection, and when thoroughly bared are lifted upward and forward, and the upper ganglion is to be carefully dissected out without rupture of its connecting filaments with the middle ganglion, as these must be the guide to the middle and lower ganglia. At this joint the efferent nerves must be cut; they are the filaments which go to the eye.

The upper ganglion having been liberated, the sympathetic tract is followed downward to the little enlargement called the middle ganglion. There is really no cause for removal of this ganglion—it is merely a matter of convenience in reaching the lower ganglion. This latter is, when dissected loose, removed with scissors, and the wound is packed firmly with gauze to control oozing. When all

oozing is checked, the great vessels are allowed to fall into place, and the deep fascia is sutured with catgut—great care being exercised that no "dead spaces" are left as possible foci of infection. Two other rows of sutures are needed to perfectly close the wound. The cut in the skin may be closed as best suits the operator. The entire head, chest, and neck are then enveloped in sublimate gauze, cotton, and starch bandages—the probability of infection being great unless the most extreme care is taken in applying the dressings. The dressings are allowed to remain six to ten days: until operation on the opposite side.

It is in epilepsy that this operation will have its widest field of application if further experiments bear out present indications.

G. E. Brewer<sup>18</sup> remarks that the propriety of exploratory operations in cases of traumatic and focal epilepsy has been extensively discussed, and a large number of operations have been performed, generally with disappointing results. The consensus of opinion among neurologists and surgeons at present seems to be that such operations are indicated only in recent cases, within one year after the injury, in cases in which general epilepsy has followed, and in cases in which the attacks are of a purely focal or Jacksonian type, especially if an injury has preceded and corresponds to the motor centre presiding over the muscles which are the seat of convulsive movements. The reason that the operation does not give permanent relief in cases of long duration is explained by the theory that the epileptic habit has become established, or that cortical degen-

<sup>17</sup> Amer. Jour. of Surg. and Gynec., Dec., 1899.

<sup>18</sup> Med. News, Dec. 23, 1899.

eration has taken place which relief of the superficial irritation does not remove.

### MENINGITIS, CEREBRO-SPINAL.

**Symptoms.**—Burton K. Chance<sup>19</sup> has made a clinical study of 22 cases of epidemic cerebro-spinal meningitis, with especial reference to the ocular symptoms. The cases observed were among the 37 treated at the Philadelphia Municipal Hospital during an epidemic of cerebro-spinal meningitis. The majority of the cases were first seen during the second and third weeks of the disease. Some of the patients were stuporous, others exceedingly irritable, and still others were found in strong opisthotonos. All of these complications rendered ophthalmoscopic examination very difficult. Among the subjective symptoms the most conspicuous were photophobia, burning pain in the eyelids, and in 1 case unilateral ptosis. Visual tests showed varying conditions:  $2/_{100}$ ,  $2/_{60}$ ,  $9/_{50}$ , and so forth. There was internal squint in 2 cases, and marked choked disk in 1. In many cases congestion of the optic disk and retina was observed. No hæmorrhages were noted, but in some cases the lymph-sheaths around many of the vessels were distended. Among the fatal cases was the patient with choked disk. Owing to the fact that none of the patients who recovered reported subsequently for examination, the permanent effect of the disease could not be studied.

**Diagnosis.**—J. B. Herrick<sup>20</sup> has examined for Kernig's sign 19 cases of meningitis, 9 of which were epidemic cerebro-spinal meningitis; 7 tuberculous; 2 pneumococcic; 1 syphilitic, with an acute process superadded. The sign was present in 17. In the 2 negative cases, both in children, the examination was made shortly before death, at a time

when the musculature had relaxed. Many patients with diseases other than meningitis were examined as to the existence of the phenomenon. Of 100 examined, it was present in 2, absent in 98. One of the two was a case of subdural hæmorrhage; the other was one of gonorrhœal rheumatism of one knee, and in this case the local condition may have played a part.

It seems justifiable to regard Kernig's phenomenon as present in 80 or 90 per cent. of cases of meningitis, and as only exceptionally present in other affections.

Lumbar puncture for diagnosis is thought by José L. Hirsh<sup>21</sup> to be of value in other directions besides the bacteriological examination. Quincke laid great stress on the value of the determination of the subarachnoidal pressure.

Pfaundler measured, by means of a mercury manometer attached to the puncture-needle, the pressure exerted by the spinal fluid in health and disease, and gives the following results as an average of a large number of children between the ages of two and twelve years:—

In health: 25 millimetres of mercury.

Hydrocephalus: 37 millimetres of mercury.

Meningitis tuberculosa: 40 millimetres of mercury.

Exorbitant high pressure occurs only in meningitis tuberculosa, one of his cases reaching 110 millimetres of mercury. Suppurative and epidemic meningitis invariably showed an increased pressure. Normal pressure with good heart-action contra-indicates a meningeal or cerebral affection.

<sup>19</sup> Med. News, Dec. 2, '99.

<sup>20</sup> Amer. Jour. Med. Sci., July, '99.

<sup>21</sup> N. Y. Med. Jour., Aug. 19, '99.



The appearance of the fluid is of value from a diagnostic stand-point. A cloudy fluid is always present in epidemic and suppurative meningitis. In tuberculous meningitis the fluid is usually clear, and on standing forms a web-like coagulum. In epidemic meningitis the diplococci will often be found in the multinuclear cells, and is absolutely diagnostic for this variety of the disease.

A faint trace of albumin is always found in the normal cerebro-spinal fluid. The amount of albumin present in the normal fluid is variously estimated from 0.01 to 0.04 per cent.; in meningitis it may be increased to 0.3 to 0.5 per cent.

Loeb<sup>22</sup> thinks the best method of making a differential diagnosis between meningo-typhus and meningitis is manifestly the Widal reaction. It is also possible, however, to detect the bacilli either by a splenic puncture or by a lumbar puncture. Other aids are the diazo-reaction, the ophthalmoscopical examination, which may reveal miliary tubercles in the choroid coat, and a marked swelling of the spleen, although when this does not occur typhoid fever is not excluded.

**Etiology.**—The conclusions of R. B. H. Gradwohl<sup>23</sup> regarding epidemic cerebro-spinal meningitis are as follow: 1. Epidemic cerebro-spinal meningitis is a specific, infectious disease. 2. It is not highly contagious, but only so in the sense that tuberculosis pulmonalis is contagious. 3. The diplococcus intracellularis is the prime etiological factor in the causation of epidemic cerebro-spinal meningitis. 4. In all suspected cases of meningitis lumbar puncture should be resorted to as a means of differential diagnosis between the sporadic and the epidemic form, and also for prognostic reasons. 5. The Gram method of staining is a rather uncertain means of differentiating the diplococcus intracel-

lularis from the micrococcus lanceolatus. 6. The diplococcus intracellularis is especially pathogenic for dogs and cats. 7. The virulence of the infection—i.e., of the diplococcus intracellularis—varies in different cases and in different periods of its visitation on the same patient; the virulence of the infection tends toward an attenuation with the further progress of the disease, and in the more chronic cases which have gone beyond the period of one month the virulence of the infection is almost lost. 8. The sign of Kernig is pathognomonic of meningitis. 9. Epidemic cerebro-spinal meningitis can be transmitted *in utero*.

**Treatment.**—J. W. Irwin<sup>24</sup> regards opium as the most important drug in cerebro-spinal meningitis. Hot baths may be also employed, and occasionally it is necessary to administer nourishment by the rectum. Late in the disease mercury and iodides are of value.

Louis Kolipinski<sup>25</sup> has successfully used the following treatment in cerebro-spinal meningitis: 1. Quiet, by excluding, as much as possible, persons, light, and sound from the sick-room. 2. A simple milk diet, water being given whenever desired. 3. Daily movement of the bowels by enema of castor-oil. 4. The arsenite of copper for the first and second days every half-hour while patient was awake; with improvement in the symptoms the intervals of dosage were prolonged to every one or two hours on the third day, every two or three hours on the fourth day, till with apparent convalescence the remedy was discontinued. A tepid bath was given when the fever rose suddenly and high.

<sup>22</sup> Deut. Archiv f. klin. Med., Feb. 9, '99.

<sup>23</sup> Jour. Amer. Med. Assoc., Dec. 23, '99.

<sup>24</sup> Med. News, Sept. 2, '99.

<sup>25</sup> Maryland Med. Jour., July 29, '99.

The formula used for children was:—

℞ Arsenite of copper,  $\frac{1}{100}$  grain.  
Distilled water, 3 ounces.

M. The phial to be shaken.  
One teaspoonful every half-hour.

For adults:—

℞ Arsenite of copper,  $\frac{1}{10}$  grain.  
Distilled water, 4 ounces.

M. The phial to be shaken.  
One teaspoonful every half-hour.

James Barr<sup>26</sup> says that the following methods of treatment are applicable to tuberculous and all the forms of simple meningitis, even including cerebro-spinal fever. A large ice-cap formed of Leiter's tubing, with a constant stream of cold water flowing through it, should be applied to the shaved scalp. In cases in which this local application of cold is not sufficient to keep the general temperature down to a fairly-normal level, cold compresses are to be applied to the abdomen. The application of cold to the splanchnic area raises the general arterial pressure; but this has a beneficial effect on the cerebral circulation by heightening the velocity without necessarily augmenting the transudation from the vessels. The temperature is usually easily controlled in meningitis, but, if there should be any hyperpyrexia, it can be quickly reduced by swinging the patient in a hammock and running a small stream of cold or tepid water over the body. The cold to the head should be continued until the general temperature has been for some time subnormal, and if any pyrexia should afterward occur it should be immediately combated by resort to the ice-cap.

In the treatment of meningitis D. R. Brower<sup>27</sup> states that such cases demand free movement of the bowels, and there is no better laxative than calomel. In-

unctions of iodoform ointment, made of 10-per-cent. iodoform with vasogen, have been found useful, the ointment being rubbed into the scalp. If there should be cardiac or respiratory failure due to increasing exudation, the heart must be sustained by strychnine given in combination with sparteine. An ice-cap applied to the head will quiet the patient and reduce the temperature. The bladder must be watched, and, if the urine is retained, it should be drawn off by a catheter from time to time. Trional or chloralamid may be administered to produce sleep, but, should it be impossible to give drugs by the mouth, hypodermic injections of hyoscine hydrobromate are to be administered. Lumbar puncture, repeated, if necessary, is most important.

In the case of a soldier unconscious from cerebro-spinal meningitis, W. Cuthbertson<sup>28</sup> made lumbar puncture between the second and third lumbar laminae, about one drachm of clear fluid being withdrawn. This was done to relieve the pressure and for diagnostic purposes. The patient recovered completely. Notwithstanding the fact that the opening between the cranium and spinal cord is obliterated in some cases, the operation of lumbar puncture should be performed before the more serious operations of trephining the cranium or dorsal laminectomy.

## NEPHRITIS.

**Diagnosis of Chronic Interstitial.**—Charles O'Donovan<sup>29</sup> remarks that the occurrence of Cheyne-Stokes respiration in advanced stages of fatty heart and

<sup>26</sup> Brit. Med. Jour., Nov. 18, '99.

<sup>27</sup> Clinical Review, Sept., '99.

<sup>28</sup> Chicago Med. Recorder, June, '99.

<sup>29</sup> Med. News, Sept. 16, '99.

toward the end of the life of persons suffering from one of the various forms of Bright's disease, as well as in other conditions of coma or allied states, has long been recognized. At such times it is merely one of many features marking the probability of an early fatal termination of the case, and attracting attention only as an interesting symptom of little diagnostic value. But this form of respiration may be one of the first symptoms observable in cases of chronic interstitial nephritis, giving warning of the sclerotic changes at a time when albumin is totally absent from the urine, or so infrequently present or in so small quantity as to elude ready detection. Of three personal cases noted, the patients all presented this form of breathing, first at night exclusively; and even at that time only at irregular intervals. Careful observation over quite an extended period of time failed to show a single instance of its occurrence during the waking hours; when it appeared it was during sleep, otherwise calm and restful, and not influenced in any way, as far as could be discovered, by any particular posture or change of posture in the individual.

From experiments on the elimination of methylene-blue through the kidney in health and disease, E. v. Czychlarz and J. Donath<sup>30</sup> conclude as follows: In nephritis there is a retardation of the elimination of methylene-blue through the urine. This manifests itself either in the late appearance of the dye in the urine or in the abnormally prolonged persistence of its urinary elimination, or in a combination of the two.

Charles Alling Tuttle<sup>31</sup> declares that urinary examinations, as ordinarily made in the physician's office, have but little value, and that the toxicity of the urine often affords the best and safest means

of diagnosis. Chronic interstitial nephritis can exist without albuminuria, casts, or the usual clinical symptoms of kidney impairment, and albuminuria of measurable amount and renal casts may be present and yet the health of the individual be unimpaired through many years.

Rockwell<sup>32</sup> lays especial stress upon the danger of overlooking chronic interstitial nephritis, especially in its earlier stages. Whenever he finds the specific gravity of the urine of anyone over forty years old constantly too low—1.005 to 1.015, especially when obtained during the height of digestion—he expects to find hyaline casts if he looks long enough for them. The urine, even with this low specific gravity, is usually distinctly acid, is pale and clear, containing little or no sediment, in marked contrast to the chronic diffuse form. The subject often has occasion to rise at night to pass his water. Albumin may be present or absent. It is never in large amounts. In such sediment as one is able to get, preferably by the centrifuge, may be found hyaline casts, cylindroids, and an occasional leucocyte. The urine may be preserved with borolyptol. A quantity should be placed in a conical glass, allowed to remain over night, when all but a small portion is decanted, and the remainder is put in a centrifugal machine; in this way casts will be obtained if they are present. In the diagnosis of this form of nephritis one is greatly aided by examination of the heart, for hypertrophy begins early. Arterial tension is high from the beginning, and the second sound at the base is usually accentuated.

<sup>30</sup> Wiener klin. Woch., June 15, '99.

<sup>31</sup> Med. Record, Oct. 28, '99.

<sup>32</sup> N. Y. Med. Jour., Sept. 23, '99.



Irvin Lindenberger<sup>33</sup> has found that certain drugs in renal as well as other affections militate at times against a proper diagnosis, as regards conditions of the system, by a urinary examination; especially is this true after the administration of urotropin. Having the power of dissolving casts and probably other solid matter, it makes the diagnosis of nephritis by microscopical examination impossible.

The treatment of digestive disturbances with hydrochloric acid, pepsin being usually given in connection with it, will make the matter of diagnosis of oxaluria at times difficult or impossible.

If a twenty-four-hour specimen cannot be obtained, one passed on retiring and a specimen on rising should be called for, mixed, and examined. Especially in the early morning specimen, in cases of chronic interstitial nephritis, is the albumin very much diminished or absent altogether, this being due to the period of rest during sleep. The addition of a few drops of formalin will retard decomposition during the warm months, and not interfere with any of the tests for albumin or sugar.

In examining urine for casts J. H. Linsley<sup>34</sup> considers the following method of most value: A few drops of the urine which contains the sediment is removed with a pipette and placed on a clean, glass slide. No cover-glass is used in this manipulation. The slide containing the specimen is then placed on the stage of a microscope and a  $\frac{3}{4}$ -inch or  $\frac{1}{2}$ -inch (No. 2 or No. 4) objective brought into the optical axis of the instrument. A higher power of the microscope should never be used for the detection of casts in the urine. The next step, the illumination of the specimen, is so important a procedure that without careful attention to the details of its application no

casts will be seen, even though there be hundreds of them on the glass slide under observation. The opening in the diaphragm should be reduced until the specimen is only faintly illumined, and the mirror, using its concave side, turned in such a way as to direct oblique rays of light through the slide and objective.

When hyaline casts are present in a specimen which has been mounted in this manner, they appear as sharply defined, somewhat refractive, and perfectly transparent diminutive logs, with rounded ends.

After carefully examining the specimen with the lower power, a cover-glass may be applied, the superfluous urine removed with a piece of blotting- or filter- paper, and the specimen investigated with a  $\frac{1}{8}$ -inch or  $\frac{1}{9}$ -inch (No. 5 or No. 7) objective. In this case more light is needed, and the opening in the diaphragm must be enlarged. The higher magnifying power allows the study of the structure of any casts or epithelial cells, and the detection of pus or blooded cells and bacteria, but it should never be employed until after a thorough examination with the low power.

**Etiology.**—C. W. Larned<sup>35</sup> says that the conclusions to be drawn from a study of the relation of chronic nephritis to malarial disease are: 1. Certainly in some localities malarial fever should be given a prominent position in the etiology of chronic, as well as of acute, nephritis. 2. In all cases of malarial fever the urine should be closely watched. 3. A blood-examination should be made in all cases of nephritis occurring in those who have

<sup>33</sup> Med. Council, Nov., '99.

<sup>34</sup> Med. Record, Oct. 21, '99.

<sup>35</sup> Johns Hopkins Hosp. Bull., July, '99.

visited or lived in a malarial district, as it often happens that the severe grade of nephritis resulting may mask entirely the clinical picture of malarial fever.

**Pathology of Acute Interstitial.**—W. T. Councilman<sup>36</sup> has discovered acute interstitial nephritis in 42 cases of infectious diseases, most frequently in diphtheria and scarlet fever. The interstitial tissue in these cases is infiltrated diffusely and in foci by cells resembling the plasma-cells of Unna. No satisfactory explanation can be given for the almost constant tendency of the infiltrating cells to collect, especially in the boundary zone of the pyramids, the subcapsular region of the cortex, and around the glomeruli.

**Prognosis.**—R. C. Cabot and F. W. White,<sup>37</sup> from the study of a number of hundred cases of nephritis, say chronic nephritis is not an incurable disease; recovery occurs in rare cases. It may exist for years without causing apparent constitutional disturbance. The average duration in 332 cases of chronic nephritis was 19 months. Acute nephritis is less common than has been supposed; many cases that were formerly so classified are found to represent exacerbations of chronic nephritis.

**Diet in Chronic Nephritis.**—Von Noorden<sup>38</sup> says that he has not found in all the literature a single exact clinically experimental basis for the exclusion of dark meats in chronic nephritis, but only hypothetical affirmations over the greater content of irritating products (especially nitrogenous extractives) for the kidneys in brown meat. In a personal case, a patient, with chronic parenchymatous nephritis, who took one-half pound poultry daily for five days, excreted the same amount of nitrogen and a trifle more albumin than he did in the next five days, in which, instead of the

poultry, he took an equivalent amount of nitrogen in beef.

In many cases, also, a restriction of the amount of fluids to 42 or 50 ounces can be of great advantage. This treatment is peculiarly applicable to those cases with cardiac asthma and dilation of the heart. Patients with interstitial nephritis suffer no diminution in the elimination of the important metabolic products by the restriction of liquids to 1  $\frac{1}{4}$  litres.

**Treatment of Acute Nephritis.**—In acute Bright's disease Walter Sands Mills<sup>39</sup> advises that the patient be put to bed and kept there until all acute symptoms have subsided. The room must be kept warm and at an even temperature day and night. Milk is the best food, and it may be flavored with coffee, salt, or soda-water. Some patients will take more kindly to butter-milk or to koumyss than to plain milk. Gruel may be sometimes used to advantage.

The use of tea, coffee, alcohol, and spiced foods must be stopped until after the patient is thoroughly convalescent. The drinking of large quantities of pure water—several quarts daily—is essential. Lemon-juice added to the water is very beneficial and may be taken *ad libitum*.

As the acute symptoms subside and convalescence is established, meat broths, soft-boiled eggs, and fruits may be added to the bill of fare. A full diet of the character usual to the patient will have to be adopted slowly and with caution, always closely watching and noting the

<sup>36</sup> Jour. of Exper. Med., July, Sept., '98.

<sup>37</sup> Boston Med. and Surg. Jour., Aug. 10, '99.

<sup>38</sup> Verhandl. d. Cong. f. innere Med., p. 386, '99.

<sup>39</sup> Med. Record, Aug. 26, '99.

slightest changes in the urinary secretion.

To help eliminate excrementitious matters, diaphoretic treatment is to be resorted to.

The patient may be wrapped in dry hot blankets and given hot drinks. A more effective way, but one that is dangerous in cases with heart-lesions, is to give the patient a hot-air bath. This can be done by completely covering the patient, except the head, with blankets, in such a way as to form a sort of air-chamber, and devising some apparatus to heat the air underneath. The hot-air bath ought to last no longer than twenty minutes. Care must be used lest the patient take cold; a rub-down afterward with alcohol and water will help to prevent that.

The hot pack is another method that may be used. This consists in wrapping the patient in a sheet wrung out in hot water and wrapped round about with blankets. This hot pack may be kept up for from a half to one hour. Finally the hot-water bath may be utilized. This may last for half an hour. It is an advisable procedure to rub the patient thoroughly with dilute alcohol both before and after either the hot-air or hot-water treatment.

Pain over the kidneys may sometimes be relieved by dry cupping.

If the bowels are constipated and the urine is scanty, calomel may be given in  $\frac{1}{8}$ - to  $\frac{1}{4}$ -grain doses, repeated every hour or so.

If uræmic eclampsia or coma is impending, the treatment by means of hot air or hot water, as outlined above, must be resorted to. Active depletion is usually done by the use of pilocarpine hypodermically,  $\frac{1}{4}$  to  $\frac{1}{6}$  grain at a dose.

In uræmic delirium personal success has been with hyoscyamus.

The œdema of nephritis will often respond promptly to infusion of apocynum, 10 to 15 drops being given every hour.

For œdema of the lungs alone, apis mellifica is to be used in a 1 to 100 preparation,  $\frac{1}{2}$ -drop doses being given every half-hour until relief is apparent.

Cantharides has a beneficent action on the kidney of acute nephritis. It is best given in drop doses of the tincture. Later, when the dropsy has gone down, but albumin still remains, bichloride of mercury will be found to be of service. Drop doses of a 1 to 10,000 solution are efficient.

The anæmia of acute Bright's disease is to be treated with iron and codliver-oil. Inhalations of oxygen are also of value for this symptom.

Nestor Tirard<sup>40</sup> regards the degree of œdema in acute nephritis as an indication of the probable extent of the engorgement of the kidneys. The treatment must be primarily directed to the relief of the dropsy. Diuretics are contra-indicated in the early stages of acute nephritis, since they increase the caliber of the renal vessels and thereby promote rather than relieve the renal engorgement. Vapor-baths, hot and cold packs, the warm bath accompanied by the drinking of large quantities of water, and sometimes the administration of liquor ammonii acetatis are valuable. When these measures fail to induce diaphoresis, pilocarpine may be given hypodermically. When diaphoretics fail, hydragogue purgatives, such as compound jalap powder, or a mixture of jalap and scammony powder, may be given. Œdema of the glottis may sometimes be

<sup>40</sup> Edinburgh Med. Jour., June, '99.



relieved by scarifying the aryteno-epiglottidean folds. If this fail, intubation or tracheotomy must be done. When removal of the effusion from the extremities is necessary, Southey's tubes are to be preferred to all other measures. Cardiac failure should be combated by the administration of stimulants by the mouth or hypodermically.

**Treatment of Chronic Nephritis.**—As a guarding principle in the treatment of chronic nephritis A. R. Elliott<sup>41</sup> repeats the words of L. G. Guthrie, who gives the motto: "Watch the heart and pulse." Herein is the surest way to the successful management of this widespread disease. Sooner or later the morbid process must end in death. But this termination can be longest postponed, the patient's interest can be best served, and his condition most securely palliated by placing the heart upon a therapeutic parity with the kidneys.

Caracciolo<sup>42</sup> believes there is no certain correspondence between the amount of albumin and the renal disease. Mineral waters containing small amounts of salts are useful unless there is considerable polyuria, when the amount of fluid should be somewhat restricted. A moderate mixed diet is better than an absolute milk diet. The diet which is so consumed as to take albumin from the tissues is that which will give the maximum repose to the kidneys. This is to be determined in each case by accurate comparison between the food ingested and the ejecta. Cold baths should not be used, but the skin may be methodically hardened by moist friction on leaving the bed. Strontium lactate (6 grains a day) tends to diminish the albuminuria.

Cantharides is recognized by Julius Salinger<sup>43</sup> as having distinct curative powers in chronic parenchymatous ne-

phritis. The tincture should be given in small doses (1 to 2 minims), as an overdose is irritating to the renal epithelium. The following prescription may be recommended: Iron and ammonium acetate,  $\frac{1}{2}$  ounce; tincture of cantharides, 2 minims.

### OPHTHALMIA NEONATORUM.

**Blindness Caused by.**—According to F. Antill Pockley,<sup>44</sup> with the single exception of optic atrophy, which generally attacks people comparatively late in life, ophthalmia neonatorum is by far the most frequent cause of blindness. Although the general adoption of proper methods of prevention in lying-in hospitals has considerably diminished the disease, ophthalmia neonatorum is still the most frequent cause of blindness. The usual estimate of the proportion is about 25 per cent. According to Burnett, there are 15,000 people in the United States asylums blind from this disease.

**Prophylaxis.**—F. Antill Pockley<sup>45</sup> suggests that it should be made compulsory for the parents, householder, midwife, one and all, to report immediately to the local authority every case of discharging eyes in a newborn baby. In most European countries, and most of the States of America, this is compulsory. In Germany in addition to being compelled to notify, the midwife is forbidden to treat these cases. Even in Great Britain, where notification is not compulsory, it is a common practice for notices to be distributed by infirmaries and dispensaries in something like the following terms, which is the formula of the Shef-

<sup>41</sup> Jour. Amer. Med. Assoc., July 15, '99.

<sup>42</sup> *Gl'Incurabili*, f. 9 and 10, ann. xiv.

<sup>43</sup> Ther. Gaz., vol. xxiii, p. 295, '99.

<sup>44</sup> Australasian Med. Gaz., Sept. 20, '99.

<sup>45</sup> *Ibid.*

field General Infirmary: "When the baby's eyes begin to look red and to run matter, take it at once to a doctor. It is very dangerous, and, unless treated properly, one or both eyes may be lost."

Harry Friedenwald<sup>46</sup> considers that the prophylactic treatment of ophthalmia of the newborn is as nearly perfect as can be hoped for in things medical. But the treatment must be carried out properly—in strict accordance with Credé's method. The solution to be used is a 2-per-cent. solution of silver nitrate, and a single drop is to be instilled directly upon the cornea as soon as possible after birth. It will not do to either increase or decrease the strength of the solution.

Henry E. Tuley<sup>47</sup> states that a number of authors are reporting cases in which the 2-per-cent.-nitrate-of-silver solution instilled into the eyes has been the cause of trouble, such as haziness of the cornea or a severe conjunctivitis. Some would limit the use of silver solution to those cases in which there is a vaginal discharge in the mother, others advocate the universal use of it, despite ill results in a few cases. It would seem, however, that in protargol and argonin we have efficient remedies, as their continued use in the hands of a number of observers has demonstrated clearly that they have a place in therapeutics. Perhaps if one were substituted for the nitrate of silver, a modified Credé treatment, less evil, would result and the same good be obtained. Protargol is used in a 5-per-cent. solution.

Engelmann<sup>48</sup> states that, according to Neisser, protargol has a favorable effect on the gonococcus. A 20-per-cent. solution has been personally used in 100 cases with the following results: In 27 per cent. no secretion formed; in 52 per cent. secretion disappeared on second day; in 24 per cent. secretion lasted over

one day; in 4 per cent. secretion lasted four days. So that in 80 per cent. there was almost no secretion produced. The advantages of protargol over the nitrate are: (1) less irritating, (2) does not stain, (3) comparatively cheap, and (4) retains its qualities longer.

De Wecker<sup>49</sup> opposes the theory advanced in favor of the method of Credé, that of direct inoculation of the eyes of infants by the vaginal secretions,—and contends that the lids are rolled inward to cover and protect the eyes until after birth, and that when they are opened the portions having any secretion from the vagina upon them are remote from the edges of the lids. Merely rendering the lids antiseptic is enough; instillation of silver solution is not prophylactic. A piece of cotton dipped in 1 to 100 mercury cyanide should be applied over the lids to disinfect thoroughly before bathing, and should be repeated after the eyes have been washed.

**Treatment.**—As to the curative treatment of ophthalmia of the newborn with nitrate of silver, H. Friedenwald<sup>50</sup> says it is important to apply the remedy properly.

It is equally important to know when not to use the silver solution. During the first stage of ophthalmia, when the lids are generally swelled, the conjunctiva is congested and glistening and exuding a thin, straw-colored serum, with sometimes a fibrinous deposit. This condition of the conjunctiva is frequently followed by corneal ulceration. It is necessary to curtail this state as much as possible, and this can be done

<sup>46</sup> Maryland Med. Jour., xlii, 14, '99.

<sup>47</sup> Jour. Amer. Med. Assoc., Oct. 21, '99.

<sup>48</sup> Centralb. f. Gynäk., No. 30, '99.

<sup>49</sup> Jour. de Clin. et de Thérap. Inf., No. 42, '99.

<sup>50</sup> Maryland Med. Jour., xlii, 14, '99.

by means of cold applications; cloths which have been left lying on a block of ice are to be placed upon the eye in rapid succession and continuously, day and night.

As soon as the serous exudate becomes purulent, the use of the silver solution should begin. It is well to apply the solution very gently at first, brushing it over the conjunctiva but once or twice. The solution is not to be dropped into the conjunctival sac. The lids are to be thoroughly everted and the solution penciled over the entire surface.

During the first few days, while there is still much swelling of the lids, it is necessary to continue the cold applications. It is most important to keep the eyes from collection of pus by frequently separating the lids and washing out the eye with some mild solution, such as boric-acid solution.

The nitrate of silver is to be used once daily. After the first application or two it is to be penciled over the conjunctiva until a thin, milky layer is everywhere apparent, and it is well to follow this application with cold cloths for half an hour or an hour. This treatment is to be continued until the case is cured.

Poukaloff<sup>51</sup> uses calomel instead of nitrate of silver in the treatment of ophthalmia neonatorum. The eye is to be washed out thoroughly with a 2-per-cent. solution of boric acid, well dried, and calomel is then to be dusted over the cornea and inner surfaces of both lids, which should be well everted for this purpose. In very severe cases, in addition, compresses of a 1-per-cent. solution of sodium chloride are to be used.

This treatment should be repeated two or three times a day and persevered in until the lids do not adhere in the mornings. Then the ordinary astringents

recommended in this disease are to be used. Fifty-seven cases, where the gonococcus was found in the pus, have been thus treated personally.

### PNEUMONIA.

**Diagnosis.**—Statistics of 1157 cases of pneumonia from the Medical Clinic at Leipzig have been carefully studied by Steiner.<sup>52</sup> Of these, 23 recovered on the third day or earlier. In one of these, after three days of normal temperature, there was a secondary rise with critical fall. All the cases occurred in men. About two-thirds of all the pneumonic cases occurred in a half-year—from December to May. Personal cases are classified as follows: 6 in which the disease involved the entire lobe of the lung; 11 in which the disease was circumscribed, and difficult to detect either by percussion or auscultation; 6 in which diagnosis was made from the general symptoms, while percussion and auscultation were negative. In nearly all cases the symptoms commenced suddenly, and in the first group of 6 the physical signs were characteristic. The fever was invariably high, ranging between 39° and 40°. The sputum was also typical. In the second group the disease commenced suddenly. Herpes was frequently present. The physical signs were doubtful. The fever was high, and the symptoms disappeared suddenly. In the third group the most positive feature in the diagnosis was the existence of the pneumonic sputum containing diplococci. The pneumonias of brief duration usually occur in persons between seventeen and twenty-five years of age.

**Complications.**—J. H. Musser<sup>53</sup> con-

<sup>51</sup> La Presse Méd., June 14, '99.

<sup>52</sup> Deut. Archiv f. klin. Med., vol. Ixiv.

<sup>53</sup> Jour. Amer. Med. Assoc., Aug. 26, '99.



siders that too much stress cannot be laid on the occurrence of pericarditis during the course of the pneumonia; it is often overlooked because of the insidious development of the complication. Without pain, but with only an increase in the pulse-rate, one is feebly warned of the development of this associated process.

The physical signs alone enable one to distinguish pericardial infection. However, stress is to be laid on the importance of watching the pericardium, noting the physical signs there, for in the large majority of instances it is too late when the physician first learns of this complication by symptoms of great effusion, when operative measures must be resorted to.

A study of otitis media and earache in lobar pneumonia of children by J. S. Meltzer<sup>54</sup> brings out the following points:—

1. Otitis media is an extremely frequent disease in children, especially in poorly-nourished ones.

2. Broncho-pneumonia is very frequently complicated with otitis media.

3. In lobar pneumonia of children purulent otitis media is at least very rare, possibly because the pneumonia by its hyperleucocytosis acts as a derivative upon the otitis.

4. Many cases of lobar pneumonia begin with an earache which disappears gradually.

5. The hypothesis is offered that possibly this is only a sympathetic pain of the chronically-inflamed drum.

6. In offering this hypothesis the idea is introduced of a summation within the central organ between the effects of an abrupt end of a continuous stimulus: a conception which might prove to be fruitful in pathology, in which all the chronic and many acute inflammations

are the seat of such continuous nerve-stimulations.

**Treatment.**—R. K. Macalester<sup>55</sup> advocates the treatment of pneumonia by cold water. Of most value is the cold compress, consisting of three folds of linen, cut to fit the chest closely and wrung out of water at 60°.

In the treatment of pneumonia J. H. Musser<sup>56</sup> is convinced that cupping is of great value: one should cup freely and continuously. He cups in the morning, in the evening, and again during the next day. He repeats the cupping around the areas he believes to be the seat of the consolidation. Following this, cold compresses, applied during the course of the disease, as insisted on by Baruch, are of value. These compresses are wrung out of ice-water and applied during the course of the fever. This is especially of value where the temperature is above 102°, and where there is general infection and marked evidence of toxæmia; otherwise the compresses are not indicated. These compresses are not personally used because of their effect on the lung alone, but because of their effect on the heart, the general circulation, and the nervous system. The toxic symptoms are controlled by the local applications of cold, and it is better to apply these in bed rather than by means of the cold bath out of bed. Cold sponging may be used in addition. Large quantities of water should be used internally. As long as the kidneys are acting and there are passed 50, 60, or 80 ounces a day, the heart is acting all right, the tongue will not become dry, and the so-called typhoid state will not develop. Strychnine and nitroglycerin are to be used during the course of the

<sup>54</sup> Phila. Med. Jour., Aug. 5, '99.

<sup>55</sup> Med. News, Sept. 9, '99.

<sup>56</sup> Jour. Amer. Med. Assoc., Aug. 26, '99.

pneumonia, especially during the later stages.

C. G. Stockton<sup>57</sup> says that cardiac failure and oedema of the lungs, which mean toxæmia, constitute the real danger in this disease. Therefore one should use strychnine. Strychnine should be used in  $\frac{1}{15}$ - to  $\frac{1}{20}$ -grain doses or, if needed, in  $\frac{1}{10}$ -grain doses hypodermically, and it should be given until there is no longer vasomotor paresis. There is no doubt that patients will be rescued when any other means would have been futile. If the patient show much excitement from the large doses of strychnine, the use of small amounts of opium will control the irritability.

The two drugs on which H. L. Elsner<sup>58</sup> relies to meet the indication of cardiac asthenia in pneumonia due to paralysis of the vasomotors are strychnine and digitalis, and with these he would administer the diffusible stimulants at short intervals. He has successfully treated cardiac asthenia by administering, every fifteen minutes, 15 drops each of compound spirit of ether, aromatic spirit of ammonia, compound spirit of lavender, and tincture of valerian—keeping this up night and day until the pulse showed improved tone and the heart-action was better. Patients who cannot take valerian should be given whisky or brandy in corresponding doses. With this treatment the internal administration every two, three, or four hours, according to the case, of  $\frac{1}{4}$ -grain doses of sparteine, with 4 to 6 grains of caffeine, should be insisted upon. Tokay wine in tablespoonful doses every half-hour, given with the ethereal stimulant, has great value as an alcoholic stimulant. It is sometimes necessary to use high rectal injections of coffee and whisky and hypodermic injections of ether and oil during

the periods of collapse. Skilled and faithful nurses are invaluable.

According to R. Seifert,<sup>59</sup> the new method of treatment of pneumonia by Dr. Cassoute is distinguished by the certainty and rapidity of its curative effects not less than by its simplicity. All other medication with the exception of cardiac tonics, when such are indicated, is omitted; so also are all the usual adjuvants in the treatment of these cases. At the very most packs are occasionally employed. The method consists in the continuous administration of fairly large doses of creasotal.

For adults,  $2\frac{1}{2}$  drachms are given in the first twenty-four hours in a mixture consisting of  $2\frac{1}{2}$  drachms of creasotal and 2 ounces of emulsion, to be taken in four doses. The doses for children, up to 1 year of age, are from 4 to 15 grains; from 1 to 4 years of age, from  $\frac{1}{4}$  to  $\frac{3}{4}$  drachm; from 4 to 6 years of age, from  $\frac{3}{4}$  to 1 drachm; from 6 to 10 years of age, from 1 to  $1\frac{1}{4}$  drachms. The quantity of creasotal, according to age as above, is mixed with 2 ounces of emulsion or syrup and taken daily in four divided doses. These doses can be increased without any danger. A fairly-large dose should be taken at first. Only when the temperature has sunk to the normal may the original dose be reduced to  $\frac{1}{2}$ ; the febrile curve must be carefully kept under observation, and the larger doses immediately resorted to when it begins to rise again. The administration of the creasotal must be stopped gradually, the dose being diminished in amount and given less frequently, until the last auscultatory sign has disappeared.

<sup>57</sup> Jour. Amer. Med. Assoc., Aug. 26, '99.

<sup>58</sup> Ther. Gaz., June 1, '99.

<sup>59</sup> N. Y. Lancet, Dec., '99.

**RACHITIS.**

**Etiology.**—An editorial<sup>60</sup> states that the actual exciting cause of rickets has not yet been determined. It is essentially dietetic in its nature, though bad hygiene is a very important element in its etiology. It is a disease of nutrition, complex in nature, and not due to a single cause. The diet which will most certainly be followed by rickets is one deficient in fat. If deficient in proteids, also, the certainty of rickets is increased. If to this deficiency is added an excess of carbohydrates, the diet *par excellence* is obtained for the production of rickets. Such a diet is had in perfection in condensed milk and certain of the proprietary foods.

Of the unhygienic conditions tending to produce rickets, lack of sunlight is apparently the most potent. The disease is unknown in India and most tropical countries, even though the children commonly receive inadequate nourishment. They live, however, perpetually in the open air.

**Rachitis in Etiology of Scurvy.**—Rickets is deemed, by Edmund Owen,<sup>61</sup> to be the prescurbutic stage of scurvy. There is no boundary-line between the rickets and scurvy of childhood; rickets gradually and imperceptibly passes into scurvy. Scurvy-rickets is more apt to be found among the children of the rich than of the poor. The worst cases of scurvy-rickets personally seen have been those which have been fed upon the most extensively advertised patent foods. In the artificial feeding of infants one

should not keep on continuously with any kind of artificial food. But both doctor and mother are apt to be so pleased, when they have at last discovered a food which apparently suits the baby, that they are afraid to give it up when the dietetic crisis has entirely passed away. And so it is that the intercurrency of rickets and of scurvy is invited.

**Treatment.**—H. N. Potter<sup>62</sup> considers improvement of the hygiene of the child the first essential of the treatment of rachitis. It should live in well-ventilated rooms and be taken into the fresh air often. If the child is being nursed, an examination should be made of the mother's milk to determine whether it is good and plentiful. If there is lack of nutrition in the breast-milk, cows' milk should be given in addition. It is best to avoid starchy foods. As the child approaches the end of the first year, beef-juice, broths, the yolk of a boiled egg, and custard-pudding may be given, but milk should still form a large part of the child's diet. The most valuable medicine is codliver-oil, which should be given two or three times a day after meals. Iron, as the syrup of the phosphate or syrup of the iodide, and preparations of lime, as the lacto-phosphate, are often followed by good results. The child should be allowed to walk only with braces.

<sup>60</sup> Archives of Pædiatrics, Oct., '99.

<sup>61</sup> Brit. Med. Jour., Dec. 23, '99.

<sup>62</sup> Annals of Gynæc. and Pæd., Sept., '99.

## Cyclopædia of Current Literature.

**ALOPECIA.**

**Treatment.**—In the treatment of alopecia one has, in the first place, to

modify the nutritive properties of the scalp or the fibrocellular tissue beneath the scalp, or of both. This is accom-



plished by some changes in the blood itself, brought about by getting with each act of respiration fresh air to all parts of the upper lobes of the lungs. This can be done only by the continuous use of the so-called costal mode of breathing. In the second place, as an adjuvant to the first, one has to remove from the hair-follicles any dead or dying hairs that may be present, and also to stimulate the local circulation of the blood. These results can be accomplished by pressing the hair between the extended fingers and drawing smartly in the direction in which the hairs grow, or, where the hair is absent, by roughly crowding the scalp up into the folds or ridges with the fingers. These manipulations should be carried out once or twice a day.

Along with all this, local stimulation by means of irritating applications is of value, one of which consists of 5 grains of cerate of cantharides in an ounce of vaselin or other oily substance. Delos L. Parker (*Jour. Amer. Med. Assoc.*, Dec. 23, '99).

#### ANÆSTHETIC, METHOD OF GIVING.

All experienced anæsthetizers know how much better a patient takes an anæsthetic who at first has been given it slowly with words of encouragement and suggestion spoken here and there, than those who have been badly frightened by having a cone clapped down over the face and the anæsthetic forced before becoming unconscious. The desire to save time unfortunately among the less experienced has made the term "a quick anæsthetizer" a synonym for a good anæsthetizer, whereas the proper and only just criterion should be the condition of the patients during the operation, when returned to the ward, and, lastly, the opinion the patients have of the anæ-

thetizer. (Clement A. Penrose (*Johns Hopkins Hosp. Bull.*, Nov., '99).

#### ANEURISM OF THE RENAL ARTERY.

Rovsing reports that only nine well-described cases of aneurism of the renal artery are to be found in the literature. The diagnosis was made in none of these cases until an exploratory operation or autopsy revealed the true character of the disease. If the aneurism is located on one of the large intrarenal branches, the swelling is central, and causes distension of the kidney. If it is an aneurism of the trunk of the renal artery, the tumor is located outside of the kidney in the hilus, and pushes the kidney aside without making any change in the shape of the organ. The symptoms are a rapidly-increasing, tense, or elastic tumor, with a feeling of heaviness and pain, which may radiate down to the testicle of the same side. Pulsation has not been noted in any of the cases. Diagnosis is practically impossible before an exploratory incision has been made. The possibility of aneurism should be considered when, subsequent to an injury in the region of the kidney, a tumor of considerable size develops rapidly with no hæmaturia, especially in patients having arteriosclerosis or syphilis. Christian Fenger (*Dominion Med. Monthly*, Nov., '99).

#### ARTHRITIS, URETHRAL.

The following broad statement may be made, on which to base a plea for treatment in urethral arthritis: Urethral arthritis is either due to the migration of the gonococcus or some other microbic inhabitant of the urethra to the joints, or it is due to the absorption of the toxins eliminated by these habitants.

The following can be deduced from this statement:—

1. If it is due to the migration of the gonococci from the urethra to the joint,—as one knows from experimental evidence, and from the fact that they have been found so rarely in other than the acute stages of the arthritis, the gonococci do not tend to flourish in the joint, but rather to die out,—it may be safely said that the rational treatment of this malady is to cut off the source of supply in the urethra.

2. If it is due to the migration of other habitans or (3) if it is caused by the absorption of toxins from the urethra, one may assume that all exacerbations are due either to reinfection of the joint or retransference of toxins to the joints, and may certainly trust to disinfecting, lavage and other local treatment.

There is but one practical deduction to be taken from this argument, viz.: to cure a urethral arthritis, no matter what may be its origin, the urethra must be kept as absolutely sterile as it is possible to keep that canal, and its mucosa must be without abrasion.

Till this is done the surgeon can never be sure that he will not have an exacerbation in his patient's joints. A. Mc Kenzie Forbes (*Ann. Cut. and Genito-Urin. Dis.*, Jan., 1900).

### CALCULUS IN THE URETER.

**Symptoms.** The symptoms of calculus in the ureter are the same as those of renal calculus; and as with a stone in the kidney, so also with one in the ureter, it may be either unaccompanied or quiescent, no symptom whatever may cause its presence to be known during life; or it may excite symptoms which point to some other part or organ, not to the ureter; or after causing more or less severe disturbance it may settle down and become quiescent for years.

### CALCULUS IN THE URETER.

In thin persons when the stone has been impacted just above the brim of the bony pelvis a small hard body has, in rare cases, been felt through the abdominal wall. If in the presence of the ordinary symptoms of stone in the kidney the position of such a lump corresponds with the seat of the constant pain and of a pricking sensation whenever pressure is made upon it, the localization of a stone in the ureter is pretty clear. So is it if, with the symptoms of stone in the kidney, or with frequent and painful micturition, a hard body is felt in the course of the ureter by vaginal or rectal palpation, or by digital examination or sounding of the bladder. On cystoscopic examination the mucous membrane around the ureteral orifice may be seen discolored from extravasated blood when a calculus is impacted at the lower end of the ureter.

Through the roof of the vagina a calculus can be felt at any spot within the last two and a half inches of the ureter. Through the rectum not more than one and a half inches of the ureter is thus under control.

The passage of a calculus along the ureter should be suspected if attacks of pain and hæmaturia and other symptoms suggestive of renal calculus have extended over several days or weeks or months, and if with each succeeding attack the pain and tenderness on pressure are located lower and lower down along the course of the ureter, and the bladder at length becomes the seat of pain and irritability. So also should suspicion be aroused if, after one or more attacks of typical renal colic, the patient is suddenly seized, after walking or some exertion, with a violent pain, shooting along the course of the ureter and followed by settled pain and great tenderness at one

particular spot in this course, lasting days or weeks uninterruptedly.

As soon as impaction occurs in the ureter the symptoms will greatly depend upon whether or not the opposite kidney is healthy in structure and unhampered in function. If there is but one kidney or the two kidneys are fused and have only a single ureter, if the opposite kidney has been previously destroyed, or if the two ureters are blocked simultaneously by calculi, anuria, with all its alarming symptoms, is the result.

A persistent abdominal tumor due to hydronephrosis has become a recognized symptom of renal obstruction due to calculus, movable kidney, ureteral valve, or ureteral stricture.

Nephrectasis is very apt to occur in those cases in which the calculus is in the upper end of the ureter and from time to time slips back again into the dilated renal pelvis.

The urine may contain some or other of the following deposits: Crystals, fragments of calculus, fibrous coagula, blood, blood-casts of the ureter, and pus. In some cases blood and pus have been found together in small or moderate amounts, in others there has been severe hæmaturia, and in others—generally cases of long standing—there have been large discharges of pus.

Prolapse of the ureter into the cavity of the bladder, and in the female even through the urethral orifice as far as the vulva, is one of the rarer effects of calculus impacted in the ureter. Henry Morris (*Lancet*, Dec. 16, '99).

## CARCINOMA OF THE ŒSOPHAGUS.

**Treatment.**—After a careful study regarding carcinoma of the œsophagus, the following conclusions are reached:—

1. All carcinomata of the œsophagus that have not involved the surrounding

tissues, and the lower borders of which do not extend below the upper margin of the arch of the aorta, are suitable for extirpation through the neck. The lowest point of the upper margin should not be less than 20 centimetres from the teeth.

2. Tracheotomy is seldom employed as a preliminary operation. If an opening into the trachea is found necessary, it should be made as late in the operation as possible.

3. A preliminary œsophagotomy is generally replaced by a gastrostomy.

4. A gastrostomy is the best means of securing rapid healing after the œsophagus resection. It is absolutely essential to operations upon deep-seated strictures, and advisable in those situated higher up.

5. If it is impossible to fix the upper end of the lower portion of the œsophagus in the wound, it can be ligated, where this is possible, and allowed to sink down into the thorax. A permanent gastric fistula is better for the patient than the dilatation of a constantly contracting scar-tissue stricture in the region of the aortic arch. Where it is impossible to unite the œsophageal ends, a salivary fistula is to be expected in the neck.

6. In the after-treatment the frequent changing of an aseptic gauze dressing is of the greatest moment, with great care to separate the pharyngeal from the mediastinal ends of the wound. De Quervain (*Archiv f. klin. Chir.*, B. 58, H. 1-4, '99).

## CEREBRAL SURGERY.

In modern cerebral surgery when possible the patient's head is shaved two days before the operation, after which the position of the Sylvian and Rolandic fissures are marked out by needles



scratches; these, with Reid's base-line, give landmarks enabling the operator to locate any of the known cerebral centres, the chief blood-vessels, sinuses, and dural processes. The head is then scrubbed with green soap and hot water for two minutes, and a soap poultice applied for at least four hours. The head is then rescrubbed for ten minutes by the nurse, whose hands have been previously sterilized, a sterilized brush and sterile liquid soap being used, after which a wet 1 to 5000 bichloride-of-mercury dressing is applied. This is removed when the patient is on the operating-table and the wound area rescrubbed for one minute; then douched with alcohol, ether, and sterile water; and surrounded by sterile towels. The operator and all assistants are clothed in sterilized gowns and caps. The assistant administering the anæsthetic prepares himself in the same manner as those participating in the operation, and during the operation uses a sterile chloroform mask. Sterilized rubber gloves are worn by the operator, his assistants, and the operating-room nurse. When possible, the osteoplastic or bone-flap operation is performed, for the reason that it does not leave a bony defect in the skull.

If in doubt in regard to the perfection of the technique, it is better to drain for twenty-four hours with sterile gauze. Irrigation of a wound, in which the cerebral cortex is exposed, with a hot salt solution (115° to 120° F.) has often a marked stimulating effect on the heart. George Emerson Brewer (*Med. News*, Dec. 23, '99).

#### DIAZO-TEST.

The following conclusions are reached after a series of trials with the diazo-test in patients suffering from typhoid fever: (1) the diazo-test may be found

positive occasionally in different diseases, but in typhoid fever it is always positive; (2) the degree of the reaction is independent of the patient's temperature, and seems to be in close connection with the state of the bowels; (3) an increased degree of the reaction may be taken as the sign of increased danger for the patient; (4) if the test turns out negative in patients where it had been positive, one may foretell an improvement in the symptoms at a time when there are, as yet, no other signs of it; and (5) this test is more easily carried out and more pathognomonic of typhoid fever than the test of Gruber-Widal. Hoenig (*Lancet*; *Phila. Med. Jour.*, Dec. 30, '99).

#### DIPHTHERIA.

In the treatment of diphtheria, serum-injections should be made in every case in which a diagnosis can be made even with probability. Only a small quantity of the serum should be injected at first, and the heart watched for a few minutes, when more can be injected. It is an error to inject recklessly 5 cubic centimetres at once. Soft parts, remote from the heart, such as the hip or loins, are the best places for injections. The serum should always contain a small quantity of antiseptics: kresol, 0.2 per cent., or thymol in crystals. The needle should only be pushed into the tissue to make sure that no blood-vessel has been touched. Of greatest importance for a successful treatment is a correct clinical diagnosis. The portion for microscopical and bacteriological examination should be taken from the edges of the membranes, and from the adjoining, seemingly healthy mucous membrane. In the centre of membranes it very frequently happens that no bacilli can be found, these having been thrown off. The use of local antiseptics, such

as are apt to endanger the life of tissue-cells, should be avoided. Mild, non-irritating antiseptics,—such as chinol (1 to 1000) or antinosin in 2-per-cent. solution,—applied to the entire surface of the tonsils, palatum molle, pharynx, etc., with cotton balls, have given good results. The nasal passages should be washed with these same solutions by means of a suitable syringe. The local use of the antidiphtherin, a 10-times, *in vacuo*, concentrated filtrate of diphtheria cultures, has proved highly efficient against the local affection and the fever. Edwin Klebs (Jour. Amer. Med. Assoc., Dec. 16, '99).

### ECLAMPSIA.

**Treatment.**—Injury to the tongue can be avoided by forcing the handle of a brush covered with a towel between the jaws. The administration of chloroform to control the convulsions is preferable to hypodermic injections of morphine. A drachm of chloral by enema, repeated four or five times in twenty-four hours, if necessary, is always indicated. In primigravidæ, where the pulse is strong and full, the face cyanotic, and the patient herself full-blooded, venesection until a positive effect has been produced upon the pulse is of value. In cases less sthenic, where the pulse is weak and running, veratrum viride employed hypodermically in doses of 8 minims of fluid extract, repeated at intervals sufficiently often to produce a decided slowing of the pulse, is exceedingly useful. In a few cases the pulse may be so weak, or even absent, and the heart-action so feeble, that strychnine and nitroglycerin are necessary. The next indication, to aid elimination, is best accomplished by the injection of normal salt solution under the mammary glands and into the rectum. A hot wet pack, secured by

wrapping the patient in blankets wrung out of hot water, will aid the action of the skin. The ill effect of heat upon the intracranial circulation will best be counteracted by an ice-cap on the head.

The tendency in eclampsia to oedema of the lungs contra-indicates the employment of pilocarpine. However, when the skin is exceedingly dry, one small dose,  $\frac{1}{12}$  grain, is very efficient in starting a gentle action of the skin, which can then be maintained by the external application of heat, as a hot-air bath or hot, wet pack.

No drugs are so efficient for rapid elimination of poisonous material as Rochelle and Epsom salts, and if the patient is not comatose between the convulsive attacks, and can swallow, one or the other of these drugs should be given in frequently-repeated doses until very free catharsis is secured. In cases comatose and unable to swallow, one may succeed in obtaining this effect by introducing a large dose, 2 to 4 ounces, into the stomach through a stomach-tube. Labor should be terminated as soon as possible.

The subsequent treatment during the puerperal period should consist in further elimination of the poison by hot-air baths secured by means of a shoulder of stove-pipe and an alcohol-lamp. The cathartic action of Epsom salts should be kept up. The citrate of caffeine in 3-grain doses every four hours, watching for its intoxicating effect, is especially useful, both for its diuretic action and its support to the heart. An exclusive milk diet is always necessary until the patient's convalescence is well established. Richard C. Norris (Ther. Gaz., Dec. 15, '99).

### ELECTRICITY IN MEDICINE.

The forms of electricity that have been found useful in medicine are static,

or franklinic, electricity, which has an enormous voltage and a very high ampèreage; faradic electricity, whose voltage is lower and ampèreage low; and galvanic electricity, whose voltage is low and ampèreage somewhat higher. The negative spark is always the more irritating, and it should be used only on cloudy days, when it is difficult to obtain proper effects from the positive pole. When the patient is perfectly insulated and is given static electricity, nutrition is improved and pain relieved. It is especially soothing for those nervous, discomforting conditions which are so hard to reach by any ordinary medical means. If sparks are taken from the patient when in this condition, a wheal is often produced and also a lesion not unlike a flea-bite.

The indirect spark, which is less irritating than the direct, should be used always except on damp days, when it is difficult to obtain the proper charge of electricity. The electric breeze, which is obtained from a charged machine by the use of a pointed electrode, is soothing for local irritation. In facial neuralgia, as well as other localized pains, it often gives excellent results, and often works well for such general conditions as insomnia.

An interrupted electric current is of great service in electrical treatment. It causes contraction of the muscles, but the contraction is painless as compared with the faradic current, and the effect is more diffuse. This current is very efficient in the treatment of such maladies as lumbago, sciatica, and other neuralgias, as well as in chronic rheumatism. It has a specific analgesic effect, which makes it useful in most painful conditions. It has been used with marked success for ovarian pain, while stitches of pelvic pain of uncertain cause, and

for which it has been difficult to obtain relief, are often completely overcome. It is far better than either the galvanic or the faradic current in such painful conditions of obscure origin.

In general, electricity is good for most subacute or chronic conditions. Static electricity is not a cure-all, and should not be used indiscriminately, but, used with precision and judgment, it will relieve pain in a number of chronic affections. It must be used with judgment.

The faradic apparatus produces excellent effect by the stimulation of atrophic muscles, and in general by its tonic effects on the surface of the body. Care should be taken, however, not to subject weakened muscles to prolonged tetanization by the faradic current. As a general rule, the best number of faradic impulses to allow to pass through a muscle per minute is about thirty.

Cataphoresis—that is to say, the forcing into the skin by means of an electric current of various remedies which would otherwise be absorbed very slowly and in very small quantities—is of value. Cocaine can be used very effectively to produce cutaneous anæsthesia in this way. In dentistry cataphoresis has given especially brilliant results. Marcellus Reeves (*Med. News*, Dec. 30, '99).

## EMPHYEMA IN CHILDREN.

The following conclusions are drawn from a study of emphyema in children:—

1. Emphyema is not uncommon in the first two years of life, and even in the early months. Of the 69 fatal cases on the records of the New York Foundling Hospital, 11 occurred in children under 6 months of age, 40 occurred in children between 6 months and 1 year, and 18 occurred in children between 1 and 2 years. The youngest patient was 2 months and 19 days old.



2. The mortality during this period is very high.

3. Empyema in infants is very frequently mistaken for pneumonia.

4. The rational signs are the same as those of pneumonia in children.

5. The physical signs cannot be relied upon for diagnosis.

6. Exploration is called for in every case in which, with the rational signs of pulmonary disease, there is found marked dullness or flatness over any part of the lung, especially if accompanied by diminution or absence of voice and breathing or displacement of the heart.

7. Exploration should be made with a large needle, and repeated if necessary. None of the cases in the Foundling Hospital has ever shown harm from the use of the needle: many have been missed by reason of failure to use it.

8. Practically all pleural effusions in infancy are either purulent from the beginning or soon become so.

9. When pus is found, drainage is called for. Incision in an intercostal space, with the insertion of drainage-tubes, answers this end thoroughly. David Bovaird, Jr. (*Med. News*, Dec. 23, '99).

## ERYTHEMA INTERTRIGO.

**Etiology.**—Erythema intertrigo is generally found between the folds of the skin. Uncleanliness, irritable epidermis, or profuse perspiration will produce the disease. The surfaces become rough, hyperæmia occurs, reddening of the irritated area takes place, affording a suitable soil for the development of the germ, which, multiplying steadily, penetrates into the deeper layers and excretes an irritating, cheesy, ill-smelling, white material, infecting the surrounding tissue. Inflammation, with all its symptoms,

sets in, the formation of pus goes on, and the final result is ulceration. According to personal researches, this disease is produced by the micrococcus intertriginis Rossbachi. The germ, as seen under the microdiameter, has no flagella nor spores. It is aerobic. Examination of the hanging drop does not reveal any independent motion. Occasionally cocci heap together; at other times they form very short, chain-like threads.

Specimen stain with watery aniline dyes, especially well with methylene-blue, gentian-violet, and fuchsin. After Gram, they decolorize, but not completely.

On animals inoculated with the pure culture by scarification the disease appeared within forty-eight hours, and cultures made from these inoculations produced the same germ, which proved to be virulent to the tenth generation.

The cocci grow best at body-temperature. They are destroyed at 158° F. and below 50° F. Of all the antiseptics which have been tried, formaldehyde in 1½-per-cent. solution seems to be most effective in killing the germ. Max Meyer (*N. Y. Med. Jour.*, Dec. 16, '99).

## FURUNCLES OF EAR.

**Treatment.**—The opening of furuncles in the ear, which is one of the most painful of small operations in the whole of minor surgery, can be made absolutely painless by cataphoresis. Use is personally made of the street current, two to four milliamperes being used for ten to fifteen minutes. Joseph Kenefick (*Med. News*, Dec. 30, '99).

One of the more common causes of earache is furuncle, or boil. Under such circumstances when the auricle is pulled upward, backward, and outward, the canal will be seen to be obstructed by a

small, round elevation just within the meatus. The slightest touch with the probe causes extreme suffering.

When furuncle is the cause of earache, relief will be most speedily obtained by a deep incision through the periosteum or perichondrium.

If a furuncle be frozen with chloride of ethyl and a cataract-knife or other sharp, thin knife be used, the suffering occasioned by the operation is not unbearable even in the early stages of the affection. A large proportion of patients will not submit to an early incision, and under such circumstances the case is best treated in the following manner: A small pledget of cotton should be folded upon itself and then wrapped about the end of an Allen probe with the thick or bulky part of the cotton toward the handle of the instrument. The cotton assumes a cone shape, and should be about  $\frac{3}{4}$  of an inch long, and rather larger at its proximal extremities than the diameter of the auditory canal. The surface of the cone is then to be thoroughly smeared with a 10-per-cent. ointment of cocaine and the cone pressed gently into the meatus, the probe being withdrawn by twisting in the opposite direction from which the cone was wrapped, the cone thus remaining within the ear. The patient should be instructed to press the cotton in from time to time, as he can bear increased pressure from the cone. The wedge-like pressure of the cone is at first somewhat painful, but soon is followed by decided relief. As soon as a tendency to the escape of pus is manifested, the ointment should be changed to one of yellow oxide of mercury, 6 grains to the ounce of vaselin. During the period of discharge the ear should always be thoroughly cleansed once or twice a day with peroxide of hydrogen, dried, and dusted

with boric-acid powder, and a fresh cone with yellow-oxide ointment inserted. These measures are ordinarily sufficient to prevent the first boil's being followed by a crop of boils.

Recurrent attacks of furunculosis of the meatus are generally the result of scratching an itching ear with the finger-nail or a pin. E. B. Gleason (Med. Council, Dec., '99).

### GANGRENE COMPLICATED BY GLYCOSURIA.

In the last 11 years there have been 26 cases (22 male and 4 female) of diabetic gangrene admitted to the wards of St. Thomas's Hospital. In 24 of these cases there has been an opportunity of examining the arteries, and in every instance except one there has been well-marked atheroma. In this exceptional case it was simply stated that there was no apparent disease of the tibials. During the last 5 of these 11 years personal microscopical examinations have been made of the arteries, and in every case such arterial disease as would account for the gangrene has been found. The average age of the patients in the cases mentioned above was just under sixty years, and this age, combined with the preponderance of males over females, seems to favor the theory that the disease is one of arterial origin.

From a study of these cases the following conclusions may be noted:—

1. That it yet remains to be proved that true gangrene (excluding death from acute specific processes which may occur in any subjects and at any age) occurs in diabetic patients unaccompanied by such arterial disease as would of itself produce the gangrene.

2. That the glycosuria may or may not precede the gangrene, but is not

usually accompanied by other signs of diabetes.

3. That septic wounds may produce a glycosuria which vanishes when the septic process is removed.

4. That individuals suffering from septic processes are often on the border-land of glycosuria.

5. That gangrene may aggravate a pre-existing glycosuria.

6. That the arterial disease is sometimes that which accompanies, or is produced by, chronic renal disease.

7. That it has yet to be proved that neuritis can produce any gangrene comparable to that of the so-called diabetic gangrene.

8. That the best chance of recovery is offered by removal of the limb near the trunk, and that this measure should be undertaken before the patient is reduced by septic absorption.

9. That the presence of glycosuria may be an indication, instead of a contra-indication, for operation. C. S. Wallace (*Lancet*, Dec. 23, '99).

### GASTRIC ULCER.

**Treatment.**—Twelve cases of perforating gastric ulcer have been personally operated upon in the course of the last year or two, and, as all the cases were treated as nearly as possible under the same conditions, an opportunity of learning some general lessons from their results was afforded. Five out of the 12 were saved by the operation, and 7 died. Of the fatal cases, 2 lived for a fortnight, 1 of whom died from pneumonia following a subphrenic abscess, and the other succumbed to a return of hæmorrhage. Ten of the 12 patients were females and 2 males: both of the latter died, 1 of these being the case of recurrent hæmorrhage alluded to above, who lived 14 days, and the other being a case in

which operation was not performed until seventy-two hours after symptoms of perforation were recognized. Study of these 12 cases, and of others, shows that gastric ulcer can exist for a long time without causing any evident symptoms, which is particularly unfortunate, as early recognition of the occurrence of perforation, rendered so much more likely by the existence of a correct diagnosis, counts enormously in the success of the operation. The average length of time between the perforation and operation in the 5 successful cases was  $11\frac{3}{4}$  hours, the shortest time being  $6\frac{1}{2}$  hours, and the longest 18 hours; whereas in the 7 fatal cases the average length of time between perforation and operation was  $30\frac{1}{2}$  hours, the shortest time being 28 hours and the longest 77 hours. A. E. Barker (*Clin. Soc. of London*; *Phila. Med. Jour.*, Dec. 30, '99).

### GLUTOL.

Glutol is a substance produced by the action of formaldehyde on gelatin in aqueous solution. It must be kept in a dry place. It is of a gray color, odorless, and tasteless, and acts by continuous liberation of formaldehyde produced by the cells of the tissues with which it comes in contact; and it would appear that only tissues which are still vital have this power, and that formaldehyde is not set free by contact with dead tissue. In those cases where iodoform has, up to the present, proved of greatest service glutol may be employed. The absence of toxic or irritant properties and of odor is an important point in its favor. A. Henry (*Thèse de Lyon*, '99).

### HERNIA IN THE FEMALE.

Feminine hernia of every type, unattended with organic changes or complicated by serious internal disease,



should be treated by surgical intervention. As this is quite invariably free from danger in the non-strangulated, and the prospects of permanency in effects are greater than in the male, it may be generally recommended.

For the "hernial condition," the wide diastasis of the median raphé, or extensive atrophic changes in the lateral muscles of the abdominal walls, with the resulting "pot-belly," surgery can accomplish little, if anything. The treatment of this infirmity must be prophylactic. The pregnant woman with a marked tendency to a sagging forward of the abdominal walls should be girded up by a properly adjusted circular support; and, when labor is violent or very protracted, muscular overstrain should be relieved by the use of the forceps or manual support of the overdistended abdomen. Thomas H. Manley (N. Y. Med. Jour., Dec. 23, '99).

#### HYDROCHLORIC-ACID SECRETION, RELATION OF, TO INDICANURIA.

So long as sufficient HCl is secreted by the stomach to satisfy the nitrogenous elements and to allow them to pass through the various steps of cleavage in pepsin-hydrochloric-acid digestion, excessive intestinal putrefaction is not likely to arise, despite the fact that sufficient HCl is not secreted in a free state; but, when the total acidity of the stomach is remarkably reduced and an approach is made to an alkaline condition, putrefaction of albuminoids more readily occurs and is especially favored in an alkaline intestinal medium. Excessive indicanuria has been found in ileus; obstruction of the large intestine and constipation depending upon atony of the colon or rectum is rarely the sole cause of indicanuria; while stricture of the

small intestine, even so high as the duodenum, is usually signalized by the presence of large quantities of indican, which had been found also in gastric ulcers. Indican has been found often in cases of carcinoma with or without HCl, with or without marked stagnation; and in many cases of nervous depression of HCl secretion. Indicanuria, if marked or present, has been associated more particularly with inflammatory states of the intestines, and in those cases of achylia gastrica accompanied by chronic looseness of the bowels alternating with constipation, especially during the period of diarrhoea. Analysis of 162 cases shows that there is no warrant in concluding that there is an absence of free HCl in the stomach when indican is found in the urine, nor to argue that indican would be discovered in the urine of a case in whose gastric contents there is a diminution or absence of free HCl. Allen A. Jones (Phila. Med. Jour., Dec. 23, '99).

#### INSANITY, RECURRENT.

From a study of recurrent insanity, the following conclusions, among others, may be summarized:—

1. That recurrent cases form a large proportion of the curable cases admitted into asylums.
2. That in these cases hereditary predisposition to insanity is present in a greater number than in primary cases.
3. That alcoholic or other excess is a frequent factor in the causation of relapses.
4. That in cases in early life menstrual irregularities in the female and masturbation in the male are frequently present.
5. That the puerperal period and the periods of gestation and lactation ac-

count for a large proportion of female recurrent attacks.

6. That the climacteric period in both sexes is a potent predisposing or exciting cause.

7. That the majority of the attacks occur in middle life; the first attack, however, is most frequent in the adolescent period, and is later in males than females.

8. That the prevailing forms of insanity are maniacal, melancholic forms being almost restricted to the middle period of life.

9. That the tendency is toward recovery, minor relapses being frequent before complete convalescence.

10. That the largest proportion of chronic cases is found in second attacks.

11. That in many of the cases a certain periodicity is established, the tendency, however, being toward chronic insanity.

12. That this class of patients furnishes many who are dangerous to themselves and others: a danger which is increased by the impulsive character of their acts and the frequent absence of marked premonitory symptoms before the onset of the attack. Hugh Kerr (*Glasgow Med. Jour.*, Dec., '99).

#### KNEE-CHEST POSITION, APPARATUS FOR.

Personal apparatus designed for the support and safe anæsthetization of patients while in the knee-chest position has been in constant use in the Gynæcological Department of the Johns Hopkins Hospital for over one year, and has given great satisfaction. The apparatus consists of two shoulder-supports, with cushions of leather which can be moved sidewise by a screw in front to accommodate varying widths of shoulders. These supports run on a track, being connected

with a chain, which is moved by a wheel. A ratchet-wheel with a pawl on the inner side of the wheel allows only of rotation in one direction, unless the pawl is released. There are supports which press against the front of the thigh, the cushions of which also have a motion sidewise and are held firmly in place by straps. The tibiæ rest on cushions with straps passing over the calves of the legs.

If placed properly on this apparatus, patients can be kept under an anæsthetic for as long a time in the knee-chest as in the Trendelenburg position. Clement A. Penrose (*Johns Hopkins Hosp. Bull.*, Nov., '99).

#### LIFE-INSURANCE, THE EXAMINATION OF WOMEN FOR.

The basis of calculation in life-insurance is not perfection of health, but a standard. The average life-probability of standardized groups is the basis of insurance statistics. The perpetuity of life-insurance and the reliability of actuarial computation depend on the determination of the standard. The prescribed examination of women fails to discover many important pathological conditions which affect the risk and influence the standard. Dangers of child-bearing are now considered compensated by diminished exposure, more regular mode of life, etc. Increased moral risk is recognized in young divorced widows, and the influence of economic and sociological relationship is appreciated. Gynæcological examinations should be made in every applicant to determine pathological conditions not discovered by the usual form of examination which was devised originally for investigation of men. Hardening of the breast is a cause of rejection unless the sequel of recent abscess. If the finger in the vagina cannot touch the promontory of the

sacrum, the conjugate diameter may be assumed to be sufficient for parturition. Lacerations of perineum and cervix are especially important when infected. Leucorrhœa usually indicates infection, which should be investigated. Infection is always a potential danger, for the limits of possible extension cannot be determined. The differential diagnosis for insurance purposes is unnecessary. Tenderness in either fornix and any intrapelvic deviation from the normal condition, as determined by bimanual examination, is sufficient cause for postponement or rejection. Denslow Lewis (Phila. Med. Jour., Dec. 23, '99).

#### **MALARIAL PLASMODIA, FLAGELLATED, METHOD OF OBTAINING.**

Under ordinary circumstances flagellated plasmodia do not appear in a specimen of blood until some time after it has been removed from the body, generally from fifteen to twenty minutes. The following method of obtaining these bodies is at once simple and effective: The finger or ear is carefully cleansed with alcohol, as are also the slides and cover-glasses. A small elastic band is now placed around the finger, or, if the lobe of the ear is used, it is compressed by an assistant. The puncture is made with a sterile needle or lancet and the first drop of blood wiped away. A second drop is now squeezed out and allowed to remain exposed to the air until the slide is breathed gently upon by the operator, when the tip of the drop of blood is gently pressed upon the surface of the slide. The cover-glass is then immediately placed over it, and the preparation is ready for examination. The slight exposure to the air, and the small amount of moisture upon the slide caused by breathing upon it, seem to

hasten exflagellation, for specimens so prepared almost invariably contain flagellated bodies. C. F. Craig (N. Y. Med. Jour., Dec. 23, '99).

#### **NEURALGIA OF THE EAR.**

Recurrent neuralgia of the ear should be treated by suitable constitutional remedies. To relieve pain, nothing will prove more effectual than heat, a hot-water bag, hot brick, hot hop-bag or bran-bag being, perhaps, the most desirable methods of applying it. Moist heat in the form of a poultice is no more effectual than dry heat. An ordinary hypodermic tablet of morphine and atropine, if dissolved in a little warm water and poured into the ear, although somewhat tardy in action, is generally adequate to relieve the pain. It is a good rule never to drop into the ear a larger dose of any active poison than could be safely taken into the stomach. Of all the local anodynes for earache, personal preference is for cocaine. If a 10-per-cent. ointment of cocaine in adeps lanæ is smeared thickly upon the drum-head it generally suffices to relieve tympanic neuralgia. E. B. Gleason (Med. Council, Dec., '99).

#### **PELVIC FLOOR, LACERATIONS OF.**

In repairing lacerations of the pelvic floor the following operation has been followed by good results: An incision is made which is carried up each lateral wall of the vagina from three to five centimetres, a little posterior to the centre. The vaginal wall is raised in a flap, exposing the pubo-rectalis and ventral portion of the pubo-coccygeus. Should the muscle have been so ruptured and its ends so retracted that its edge cannot be distinctly felt, the incision is made along the line which the



muscle should occupy, and careful dissection is made for separated ends. When the muscle has been freed, forceps should be placed on either side of the portion to be resected in order to keep the ends, when cut, from retracting. The portion resected should correspond to the point of laceration, if found, or, when no distinct separation is found, to about the centre of the muscle. The ends of the muscle are then sutured together with an interrupted or continuous catgut stitch, and the vaginal wound is carefully closed. M. L. Harris (*Jour. Amer. Med. Assoc.*, Dec. 9, '99).

#### PEROXIDE OF HYDROGEN IN DERMATOLOGY.

Peroxide of hydrogen is of great service in ulcer of the leg, whether varicose or from other cause. Here the thorough application of it twice daily will sometimes be followed by the most brilliant results, when associated with other proper treatment. It should be applied, in full strength, as furnished, on a bit of absorbent cotton thoroughly soaked with it and laid over the raw surface for five minutes morning and night. The application is to be changed several times with each dressing, in order that the affected surface may be very thoroughly soaked and permeated by the peroxide. The same holds good in regard to ulcers of various characters, and in obstinate syphilitic ulcerations the greatest benefit has been noted from the free use of the peroxide.

The bleaching properties of peroxide may be used with advantage in the growth of superfluous hair on the faces of women. Here the free and repeated use of the peroxide will produce a very material improvement in the appearance in a very short time. By blanching the hairs a moustache which was very strik-

ing will hardly be noticeable at a short distance.

Another advantage in the use of the peroxide in hirsuties is a certain retarding influence which it exerts on the growth of the hair. This result is slow, but with a faithful continuance of the remedy the fine growth of hairs certainly diminishes; some of the stronger ones seem to grow and they can be removed by electrolysis.

In applying the peroxide to such cases it is often well to begin by diluting it one-half with water, and increasing the strength gradually. It must be thoroughly applied in order to be effective, and the patient should dip a piece of absorbent cotton in the peroxide, until soaked, and apply this to the skin, leaving it on there until it falls off, which may take several minutes. L. Duncan Bulkley (*Jour. Amer. Med. Assoc.*, Dec. 23, '99).

#### PUERPERAL INFECTION.

**Treatment.**—An analysis of forty-eight cases of puerperal infection shows that (1) if, after a uterine douche, there is no fall of temperature, the cavity of the uterus should be explored with the sterilized finger; (2) if the initial rise of temperature is great, the uterus should be explored at once; (3) in the majority of cases it is wiser to thoroughly curette the uterus. In very virulent infection early curetting, with the object of sterilizing the uterine cavity, affords the best chance of a successful result; (4) the prognosis, in the absence of a definite localization of the infective process, is bad; (5) in some cases, if curettage fails and there is no evidence of general peritonitis or of infection of the blood-stream, vaginal hysterectomy, if performed in good time, may be successful; (6) antistreptococcic serum

should be given early and freely in cases of proved streptococcic infection. It is of little use in the advanced stages of the disease. A. W. W. Lea (*Med. Chronicle*, Aug., '99).

### RECTUM, FISTULA OF.

The internal variety of rectal fistula frequently arises from a spiculum of bone, a sliver of wood, or a fish-bone's being swallowed and then lodging in the constricted part of the anus. The prompt removal of such an offending substance will prevent the formation of a fistula. The internal opening of a fistula in most cases is to be found between the two sphincter-muscles, and not, as most practitioners seek it, higher in the rectum. A very simple means of ascertaining the location of the internal orifice of a fistula is by the injection of some fluid, such as peroxide of hydrogen, milk, a solution of creolin, or one of permanganate of potassium. These substances may be injected into the external opening (it is only in cases in which an external opening exists that this method is applicable), and, if an internal communication with the bowel exists, the fluid used will be seen oozing out of the anus or else found within the rectum.

A fistula may not be connected with the bowel, but with the genito-urinary tract. The escape of urine through the sinus will settle the question. Simple cases of fistula, or cases in which a general anæsthetic is contra-indicated, may have the parts rendered as aseptic as circumstances will permit, and then, under the influence of a local anæsthetic,—such as cocaine, in the strength of a 2- to a 4-per-cent. solution (never stronger), or eucaïne,—the tract may be painlessly opened and a cure result, the patient not being confined to bed,

but advised to rest as much as possible until the wound has healed. Lewis H. Adler (*N. Y. Med. Jour.*, Dec. 30, '99).

### RESUSCITATION BY TRACTIONS OF THE TONGUE.

Fourteen cases are noted of the restoration of persons apparently dead by long-repeated tractions upon the tongue. In one-half of these instances the tractions were kept up from twenty to sixty minutes. One patient was worked over in this manner for three hours before he could be brought back to life. The exact time during which a patient may remain apparently dead and then be resuscitated has never been determined, either by experiments upon animals or by the treatment of the living, but it is evident that resuscitation is possible after a much longer interval than one might at first suppose. By the old methods, when asphyxia has lasted more than five or six minutes, respiration cannot be re-established. By tractions upon the tongue, however, persons have been brought back to life who were twenty or even forty minutes under water. Laborde (*French Acad. of Med.*; *Med. News*, Dec. 2, '99).

### RHINŒDEMA.

Patients with rhinœdema should go to a regular gymnasium or have a teacher come to them and give progressive gymnastic exercises to put them into a profuse sweat twice a day, after which they should take a warm bath, followed by a cold shower or plunge and a brisk alcohol rub. They must keep in the open air.

The most important step in the treatment of this affection is the use of the rectal sitz-douche, with the nozzle in the centre of the cushion, by which the patient may wash the entire colon morning

and night with four quarts of water in which is put a spoonful of sea-salt and sodium bicarbonate. In no way can venous stasis in any part of the body be so quickly relieved, and, as a treatment to benefit the portal circulation, it has no equal as an adjunct to exercise.

This mode of treatment, with a little strychnine and digitalis, will soon put the nasal mucous membrane in condition to resist monochloroacetic acid without danger of a general slough's taking place. In these cases cauterizing the nose with electricity or acid in the early oedematous condition is hazardous in the extreme. All oedemas are not the result of venous stasis or impediments to the return-current, and it is difficult to conceive that in the nose a true impeded return might be established. Much more reasonable is the hypothesis that altered nerve-function or vascular disturbance caused by a neighboring ethmoiditis primarily induces the dilatation and infiltration, which soon partake of the characteristics of a true oedema. H. H. Curtis (*N. Y. Med. Jour.*, Dec. 16, '99).

### SHOCK.

**Treatment.**—Strychnine in large doses is of great value in severe shock. In a personal case of profound shock from the removal of a large ovarian tumor, the injection of  $\frac{1}{4}$  grain of strychnine was followed by immediate recovery, but death took place nine hours later. While  $\frac{1}{4}$  grain is a rather large dose, and should not be given as a routine practice, there is scarcely any use of giving less than  $\frac{1}{10}$  grain when strychnine is really indicated. J. Basil Hall (*Brit. Med. Jour.*, Nov. 25, '99).

### SOAP SPIRIT, DISINFECTION WITH.

The method of using the official soap spirit for a disinfectant is as follows:

If the hands are evidently dirty, they are rubbed with gauze, soaked in the soap spirit, until clean. The nails are cleansed with a nail-cleaner, and afterward the hands are scrubbed for five minutes with a brush in soap spirit.

The advantages of disinfection by this method are:—

1. The disuse of excessive washing with water is beneficial for the patient, especially when delicate. The patient is less exposed to chill and cold, and suffers no depression.
2. The soap spirit is not poisonous and has no odor; it is a deodorizer; it does not irritate the skin even in the most delicate parts; is limited to five minutes, which is quite sufficient for disinfection.
3. The hands remain free of germs longer because the soap spirit has a certain penetrating action into the deeper layers of the epidermis, and it remains here some time.
4. This method of disinfection is less costly than the complicated methods or that by alcohol.

There is a disadvantage in that the hands are made smooth and slippery as after the use of lysol. This disadvantage is removed by operating in cotton gloves. Mikulicz (*Deut. med. Woch.*, No. 24, '99).

### SOMATOSE.

As the result of observations and experiments the following conclusions are reached: (1) that somatose is a true meat-nutrient possessing restorative and stimulating powers; (2) that it is well borne by delicate patients; (3) that it improves digestion and causes no gastrointestinal disturbances; (4) that it has a favorable effect on general metabolism; and (5) that it has no irritant effect on the kidneys and that it never gives rise



to albuminuria, albumoses, or peptonuria. In those cases in which albuminuria existed prior to the administration of somatose the albumin gradually disappeared from the urine during its administration. Thomas Stevenson and A. P. Leuf (*N. Y. Lancet*, Dec., '99).

### STIMULANTS, VASOMOTOR.

From experiments undertaken to test divers vasomotor stimulants in animals that have been infected with pyocyaneus and pneumococci, it is concluded that, in cases of vasomotor weakness due to infection, the most useful drugs are caffeine and coria myrtin, and next to these is camphor. Strychnine and ergotine are of little or no value, and are often very injurious. Hans Pässler (*Deut. Archiv f. klin. Med.*, vol. lxiv, '99).

### STOMATITIS.

During the course of twenty years 553 cases of stomatitis, excepting true cancrum oris or gangrene of the mouth, have been noted among 30,706 children examined. Injuries to the mucous membrane of the mouth play an important rôle in the production of the stomatitis. Rubber nipples and rings, which are so often given to children for the purpose of quieting them, are to be discarded; constant suckling on them is apt to produce lesions of the mucous membrane. General symptoms are usually present; fever, swelling of the glands at the angles of the jaw, and dyspeptic disorders. In 15 cases there were marked intestinal disturbances. Unboiled milk of cattle suffering from foot-and-mouth disease may induce a similar affection in man, especially in children; but not all cases of sore mouth are due to such an infection. Pott (*Münch. med. Woch.*, July 25, '99).

### STOOLS, RED PIGMENTATION OF.

Three cases have been noted in which there occurred a red pigmentation of the stools of a kind liable to be mistaken for blood. Portions of the stool set aside for inspection showed streaks of redness upon the surface. After further exposure and repeated agitation the whole mass of the stool became of a blood-red color. From careful examination of the stools, the following conclusions were reached: 1. That there was no blood present. 2. That bilirubin and biliverdin were absent. 3. That the pigment coloring the fæces red was closely related to stercobilin, though differing from it in some slight particulars, probably due to the incompletely metabolized condition in which it was excreted. 4. That the fæces at first contained chromogen, which, on exposure to the air, became converted into the corresponding pigment. Carter and MacMunn (*Lancet*, Nov. 25, '99).

### SUPERACIDITY OF THE GASTRIC JUICE.

The vegetable foodstuffs together with milk are of much greater value in dietetic treatment of superacidity than the animal foods. Potatoes increase the total acid through the production of lactic acid, and are of less value than bread and cereals. Butter and cream are to be recommended, since they decrease the acid secretion. W. Bachmann (*Archiv f. Verdauungs-Krankheiten*, Oct. 28, '99).

### SYPHILIS.

**Treatment.**—The mercurial treatment by the pillow-slip method is dirty and wasteful of mercury, although efficient. These inconveniences may be obviated by using a cloth impregnated with mer-

cury, "mercolint," which is made into a little apron to be worn over the chest night and day. The mercolint looks like an ordinary gray cloth. The salve contains 90 per cent. of mercury, and each apron thus represents 10 to 50 grammes of it. In about four weeks the cloth grows white, showing that the mercury has evaporated. For the majority of cases, in which less violent measures are required for slight relapses and intermediate courses with Fournier-Neisser treatment, in syphilitic anaemia, for pregnant women, for infants, and weak persons generally, and as a preventive of exacerbations, the wearing of this little apron is a most "effective, convenient, neat, even elegant, method of mercurial treatment." Blaschko (Berl. klin. Wochn., Nov. 13, '99).

### TEAR-DUCT OBSTRUCTION.

In tear-duct obstruction repeated problings have been almost entirely abandoned personally, the use of solid metal styles made of electric-fuse wire being preferred. After dividing the lower canaliculus and the stenosed portion of the tear-duct by means of a specially-constructed knife, a No. 6 Couper bulbous probe is inserted, and then the style. When the style is properly inserted, the bent upper portion should lie in the divided canaliculus without causing inconvenience, and without being seen except on eversion of the eyelid. The style need not be removed for two or three months, by which time the cure is generally complete. The only further treatment necessary is the use of an alum-and-boric lotion for bathing the eye, and the emptying of the sac by pressure over it with the finger. The treatment has been tested in about two hundred cases with gratifying results.

McGillivray (Glasgow Med. Jour., Dec., '99).

### TUBERCULOSIS.

**Climatic Treatment.**—In the climatic treatment of tuberculosis there is one feature that should not be overlooked, and that is the importance of rest and increased nourishment. Too frequently patients are advised to take little or no medicine upon arriving in Colorado, but to take abundant exercise. This is often a great mistake, especially regarding exercise. Invalids, instead of exercising when first coming to a great altitude, should take long hours of rest, and if there is any fever the repose should be absolute until the fever has subsided. This, in connection with greatly increased nourishment, will give the best results. Other necessary factors are sunshine and out-door life. If unable to exercise, tuberculous invalids should sit or lie out-of-doors as much as possible. Medicines have their uses and are of much importance, but the greatest factors in the cure of tuberculosis are rest, nourishment, altitude, and sunshine. F. E. Waxham (N. Y. Med. Jour., Dec. 23, '99).

### TYPHOID FEVER.

**Perforation in.**—Personal conclusions regarding the surgical treatment of perforation of the bowel in typhoid fever are as follow:—

1. The surgeon should be called in consultation the moment that any abdominal symptoms indicative of possible perforation are observed.

2. If it be possible to determine the existence of the perforative stage, exploratory operation should be done under cocaine anæsthesia before perforation, shock, and sepsis have occurred.

3. After perforation has occurred, operation should be done at the earliest possible moment, provided,

4. That we wait till the primary shock, if any be present, has subsided.

5. In a case of suspected, but doubtful, perforation, a small exploratory opening should be made under cocaine to determine the existence of a perforation, and, if hospital facilities for a blood-count and for immediate bacteriological observation exist, their aid should be invoked.

6. The operation should be done quickly, but thoroughly.

7. The profession at large must be aroused to the possibility of a cure in nearly, if not quite, one-third of the cases of perforation, provided surgical aid is invoked. W. W. Keen (*Medical Times*; *Penna. Med. Jour.*, Dec., '99).

**Urine in.**—Results obtained by a number of observers in the examination of the urine in typhoid fever for bacilli are as follow: 1. In quite a high percentage, perhaps from 20 to 30 per cent. of all cases of typhoid fever, typhoid bacilli may be present in the urine. 2. When present they are usually in pure culture, often so numerous as to make the freshly-voided urine turbid, and may then be detected by a coverslip examination. 3. Appearing generally in the second and third weeks of illness, the organisms may persist for months or years, probably multiplying in the bladder, the urine being apparently a suitable medium for their growth. 4. Though often showing evidences of cystitis and marked renal involvement, the urine containing bacilli has usually only the characteristics of an ordinary febrile urine; the presence of bacilli has no prognostic importance, and their disappearance or persistence without having induced local change is the rule. 5.

Lastly, as shown by Richardson, irrigation of the bladder with mercuric chloride, and the internal administration of urotropin, a compound of ammonia and formaldehyde, seem to be safe methods of removing the bacilli; 30 or 60 grains of the latter quickly removed all bacilli in six cases. Norman B. Gwyn (*Bull. Johns Hopkins Hosp.*, June, '99).

### UTERUS, RETROVERSION OF, WITH ENDOMETRITIS.

In retroversion with endometritis the first step must be, not to replace the uterus, but to overcome the endometritis. Douches and tampons, combined with rest in bed for ten days or a fortnight, will achieve the desired effect most quickly. Tampons should be saturated either with glycerin or with ichthyol and glycerin; one should be inserted every evening and removed the following morning. The douche should be given night and morning; at first it should be at a temperature of 110° to 112° F., later on it may be cooler. A full quart should be used each time, the patient lying on her back and the nozzle being introduced well up to the vaginal fornix. It is a great advantage for the medical attendant to superintend the treatment personally if possible, or to intrust it to a reliable nurse, rather than depend on the patient herself. The treatment of the retroversion consists in replacing the uterus, with the sound or fingers, while the ovaries, if prolapsed, are pushed up as far as possible bimanually. The insertion of a suitable Hodge pessary completes the treatment, but these patients require careful watching for a time in order to be prepared for any return of the inflammatory condition or of the displacement.

When the endometritis is more pronounced and associated with consider-



able enlargement of the uterus and metrorrhagia, a more energetic treatment, such as curetting, becomes necessary.

When curetting is indicated, it is often an advantage to first carry out the preliminary measures above described, in order to diminish the inflammatory process to some extent before proceeding to operation. When the case is further complicated by extensive laceration of the cervix or by a deficient perineum, the curetting should be combined with trachelorrhaphy or perineorrhaphy, as the case may be. Arthur E. Giles (*Brit. Gynæc. Jour.*, Nov., '99).

#### **VAS DEFERENS DIVIDED IN A HERNIA OPERATION, TREATMENT OF.**

In May, 1899, during an operation for the radical cure of a large inguinal hernia in a young man, the vas deferens was accidentally cut completely across. After sewing up the hernial ring and before closing the wound, the cut ends of the vas deferens were united in the same manner as a ureter is at times repaired after similar injury. This was done by making a split in the lower portion of the tube for a short distance and drawing the upper portion into the lower split end by means of two sutures and needles attached to the upper end. After the upper portion was drawn into the lower a few sutures were used to close the split and hold the parts together. Within a few weeks the patient has been seen, and it was found that there had been no special change in the testicle of that side; it certainly had not undergone atrophy and seemed to be physio-

logically normal. John B. Roberts (*Phila. Med. Jour.*, Dec. 30, '99).

#### **X-RAY EXAMINATIONS FOR LIFE-INSURANCE COMPANIES.**

The organs to be considered by life-insurance examiners in the physical examination of candidates are chiefly the kidneys, the lungs, and the heart. Two of these organs—the lungs and the heart—are especially open to inspection by the x-rays, and can be thus examined without removing the clothing. In the lungs, for instance, old foci of tuberculosis give rise to abnormal appearances, which can be seen on the fluorescent screen, and yet which might be overlooked by auscultation and percussion, if not near the surface of these organs. Emphysema of the lungs is best recognized by the x-rays; the effects of old pleuritic adhesions may sometimes be seen by this new method of examination, and thoracic aneurisms may be detected in an early stage.

The size and position of the heart can be determined with greater certainty and exactness by the x-ray than by the older methods. There is no single method of physical examination of the thorax, when properly carried out, that gives such trustworthy and complete evidence of the normal or abnormal condition of the organs in this part of the body as an examination with the fluorescent screen. From the insurance stand-point it is not so much a question of what the disease is, as whether there is or is not an abnormal condition in the chest. F. H. Williams (*Boston Med. and Surg. Jour.*, Dec. 28, '99).

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### Sajous's Annual and Analytical Cyclopædia of Practical Medicine.

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### APPENDICITIS.

**Prognosis.**—For prognostic purposes the lesions of the appendix are considered by Caley<sup>1</sup> as “severe” and “mild.” The severe lesions are perforation, gangrene, ulceration, and sometimes concretions and suppuration within the ap-

pendix itself. Most of the fatal cases are associated with perforation and gangrene. Mild lesions are simple inflammation, whether acute or chronic; stenosis or obliteration of the lumen, with

<sup>1</sup> Med. News, Jan. 27, 1900.



or without cystic dilatation of its distal portion; some forms of concretion; superficial ulceration; kinking; volvulus, or extensive adhesions. Most chronic cases present those symptoms which are mild as far as the probability of an extension of the peritonitis is concerned. Persistent severe pain or vomiting or a sudden return of pain or vomiting after an interval of quiet is a symptom which almost always indicates a severe case. The same may be said of a pulse persistently above 120, or an initial collapse, even if it is soon succeeded by a more comfortable period. The prognosis for recurrence has been variously given at from 30 to 47 per cent. Usually the second attack comes within a year, almost certainly, if at all, within two years. There will surely be a recurrence if there is persistent pain and local thickening.

**Treatment.**—In regard to operating in appendicitis Maurice H. Richardson<sup>2</sup> gives the following summary:—

I. Should every case be operated upon as soon as the diagnosis is made?

As a rule, the appendix should be removed if the diagnosis is made in the first hours of the attack.

After the early hours operation is advisable: 1. If the symptoms are severe, and especially if they are increasing in severity. 2. If the symptoms, after a marked improvement, recur. 3. If the symptoms, though moderate, do not improve.

The wisdom of the operation is questionable: 1. In severe cases in which an extensive peritonitis is successfully localized and the patient is improving. 2. In cases which are at a critical stage, and which cannot successfully undergo the slightest shock.

II. Should the appendix be removed in every case?

It should not be removed: 1. In localized abscesses with firm walls. 2. When the patient's strength does not permit prolonged search.

It should be removed whenever the peritoneal cavity is opened, unless the patient's condition forbids.

The appendix should be removed in all cases as soon as the inflammatory process has had time completely to subside: in from two to three months after the attack. In cases simply drained, the scar-tissue should be excised, the appendix removed, and the wound securely sutured.

C. Mansell Moullin<sup>3</sup> advocates operation at the earliest possible opportunity in all those cases which have not shown definite signs of improvement within thirty-six hours. Suppuration occurs in a very much larger proportion of cases of inflamed appendix than is usually believed. In many of these the abscess bursts suddenly into the bowel, with instantaneous remission of all the symptoms; in others the pus gradually becomes inspissated and dried up. It is true that many of these cases recover without operation, but it is not good surgery to leave an abscess in close proximity to the general peritoneal cavity in the hope that it will not burst into it.

Another argument in favor of early operation is the very grave effect upon mortality which the postponement of the operation exerts in the case of those who, because of suppuration or of diffuse peritonitis, come to operation at last. Fowler, analyzing 127 cases, showed that 83 per cent. recovered of those patients who were operated upon in the first three days; 60 per cent. of

<sup>2</sup> Amer. Jour. Med. Sci., Dec., 1899.

<sup>3</sup> Lancet, Dec. 16, 1899.

those operated upon on the fourth day; 58 per cent. of those operated upon on the fifth and sixth days; 50 per cent. of those operated upon on the seventh and eighth days; and only 33 per cent. of those operated upon on the ninth and tenth days. As Murphy has phrased it, one-half of all the patients who would have recovered by operation will die if we wait until the sixth day.

If in a case of inflamed appendix thirty-six hours have passed without definite improvement having shown itself, the responsibility for the consequences must, it seems, rest with those who recommend that an operation should not be performed.

An editorial<sup>4</sup> says that certain clinical facts have been demonstrated so often in the course of this affection that broad lines of action may be formulated upon them. Briefly stated, these are as follows:—

1. As we can never tell from the nature of a previous attack of appendicitis what will be the character of the next seizure, or when, if ever, it will occur, a patient who has had one mild attack should have this clinical observation clearly stated to him, and the decision for or against operation left with him. If a patient has had more than one attack, the probability of a recurrence is much stronger, and the surgeon may even urge an operation in the interval, the burden of responsibility, in case of refusal, being placed upon the shoulders of the patient. Under this head belong all those cases in which, after the subsidence of the acute seizure, the parts apparently return to their normal condition. Should adhesions of the appendix to neighboring structures have occurred, which in themselves cause pain and interference with the general well-being of the individual, there would

exist a further indication for surgical interference.

2. If, during the course of an acute inflammation of the appendix, there is manifested a distinct tendency to a regression, we may safely wait for the subsidence of the attack, and then consider the patient as outlined above. Such regression is determined by careful observation of the triad of symptoms, which in relative importance are: (a) pulse-rate; (b) local pain and rigidity of the abdominal muscles; (c) temperature elevation. If the pulse-rate steadily declines and the other two symptoms become less marked, the inflammation is regressing, and operative attack can be deferred.

3. But if there is a distinct progression, as indicated by an increasing rapidity of the pulse, and more marked local pain and rigidity, irrespective of temperature elevation, operation is urgently demanded.

4. Abscess-cavities call for immediate careful evacuation.

5. General peritonitis demands immediate operative interference except when the general condition of the patient forbids a formidable procedure. Such latter patients do better if treated expectantly, and often enough these desperate cases improve, and then their subsequent surgical treatment depends upon the local condition.

These general principles of action will be found to govern the vast majority of cases. But one must never forget that appendicitis does not always run a typical course, and in the atypical cases the internist and the surgeons both must rely on their past experiences to enable them to decide for or against operation.

<sup>4</sup> Med. Record, Dec. 30, 1906.

Edwin Marion Cox<sup>5</sup> states that death should not be attributed to the operative method of treatment in cases in which that treatment is undertaken under stress of emergency, and not at the time that the surgeon would have chosen. There is not the slightest doubt that in competent hands the mortality after the removal of the diseased appendix in suitable cases during the quiescent period is practically nothing, and that in acute cases of various kinds (abscess, perforation, etc.) the figure is much lower than any medical form of treatment can possibly show, and will become still lower in proportion to the recognition which timely surgery receives as the only proper way of handling the disease. The idea of waiting for "adhesions to form" or "the abscess to develop" is just as rational as waiting for adhesions in a case of strangulated hernia.

Gilbert Barling<sup>6</sup> has collected all the cases upon which he has operated, 117 in number, up to March, 1899. Forty-two were operated upon in a quiet interval; only 1 of these 42 patients died. The remaining 75 cases may be separated into four groups: -

1. The "safe" abscess, in which the pus is localized by adhesions from the general peritoneal cavity, and the abscess is adherent to some part of the anterior parietal peritoneum, so that the surgeon opens directly into the pus without risk of infecting the general belly-cavity.

2. The "non-adherent" abscess, in which the pus is shut off by adhesion from the general cavity, but the abscess is not adherent to the anterior parietal peritoneum, and the operator has to open the general cavity to seek the pus and evacuate it, and so runs the risk of general peritoneal infection.

3. The "subacute" wide-spread sup-

purative peritonitis which approximates to the next class, but is not so acute in the onset, and, though the pelvis and lower part of the abdomen may be widely involved, there is considerable tendency for the inflammation to be limited by adhesion, and the peritoneum above the line of the transverse colon generally escapes.

4. The "acute," fulminating peritonitis, due to perforation or gangrene of the vermiform appendix, before limiting adhesions of any degree have formed, or to rupture of an abscess previously shut off from the general peritoneal cavity. In these the onset is very acute, and the inflammatory mischief rapidly spreading is without limits of a definite kind, though even here the term "general" peritonitis may be somewhat of an exaggeration, as the transverse colon makes a barrier which not infrequently marks the limit of the peritonitis.

Group 1, described as "safe abscess," comprised 19 patients; of these, 18 recovered and 1 died. In no instance was the vermiform appendix removed.

In Group 2, "non-adherent abscess," there were 21 cases, all of which recovered from the operation. In 13 patients the vermiform appendix was not removed, and in none of these, so far as can be learned, has there been recurrence.

In Group 3, 9 cases occurred, with 3 deaths. In only one of these patients was the appendix removed, and a good recovery followed.

In Group 4, 26 cases are comprised, showing 15 recoveries and 11 deaths, a mortality greatly exceeding that of all the other groups together. In 15 cases the vermiform appendix was removed.

<sup>5</sup> Med. Record, Jan. 20, 1900.

<sup>6</sup> Edinburgh Med. Jour., Dec., '99.



with 8 recoveries and 7 deaths. In the remaining 11 cases the appendix was not removed: 7 of the patients recovered and 4 died. At first sight it appears that it is safer in these fulminating cases not to remove the appendix, the proportion of recoveries being greater when it was left; but, looking carefully over personal notes of the individual cases, the writer does not feel justified in forming this conclusion.

C. B. Keetley<sup>†</sup> notes a mode of operating which he believes to be at all times safe, whether on the first or last day of an acute, a subacute, or a chronic attack. The surgeon proceeds somewhat as if he wished to tie, extraperitoneally, the common iliac artery. 1. The skin is incised above the anterior superior iliac spine and the outer half of Poupart's ligament, in a line parallel to the latter. 2. The external oblique aponeurosis is divided to the extent of the skin incision. 3. The deeper muscles are penetrated as much as possible by separation of their fibres and toward the outer part of the skin incision by cutting with scissors. 4. The transversalis fascia is divided. Hæmostasis is effected by the way customary with the surgeon operating. 5. The peritoneum is carefully separated from the iliac fascia, the surgeon at the same time palpating for the deep surface of the appendix or for the inflammatory thickening around it. 6. A strong light is thrown into the depths of the wound and signs of inflammatory infiltration of the tissues such as indicate the neighborhood of pus are looked for. 7. If pus is found the infiltrated tissues are carefully torn open with two pairs of dissecting forceps, not cut or roughly punctured. 8. Whether pus is found or not, drainage-tubes of medium calibre are carried to the bottom of the wound. If a collection of pus is swabbed

out, the greatest gentleness should be employed. It is better not to use the douche or syringe.

If in separating the peritoneum from the iliac fascia the former should be accidentally torn, the opening may be used for the purpose of an exploratory laparotomy, then closed with a suture and protected with a thin fold of iodoform gauze wrung out in a solution (1 in 2000) of warm sublimate, when the operation may be continued. If the appendix, in spite of inflammatory thickening, floats free in the peritoneal cavity and the latter shows no sign of infection, there is no reason why the appendix should not be excised. If it is the centre of adhesions, possibly bounding pus, and the thickened mass floats comparatively free in the abdominal cavity, then, (1) if it can be done without tension, the inflamed mass is to be brought and fixed by sutures through healthy tissues to some part of the parietal wound, and that part of the wound is to be left open; (2) if the above course cannot be followed without dragging on the bowel, one should either carry a drain down to the inflammatory mass or leave it alone altogether. One should not tear open the adhesions and remove the appendix if the patient is at the time in the throes of an acute or subacute attack, but should wait till the temperature is normal or nearly so, watching the patient narrowly, giving him no opium, and reopening the abdomen at once should signs of extension of the mischief appear.

As regards the operation for appendicitis, C. B. Lockwood<sup>\*</sup> advocates the oblique incision parallel to the outer half of Poupart's ligament, because it

<sup>†</sup> *Lancet*, Jan. 13, 1900.

<sup>\*</sup> *Brit. Med. Jour.*, Jan. 27, 1900.

can be extended to reach an appendix which lies outside the caecum, or which is adherent within the pelvis. It may be laid down as an axiom that the organ is never absent except as the result of disease.

In cases complicated with suppuration and peritonitis a determined endeavor should be made to remove the appendix. It is worth while to run considerable risks rather than leave behind an appendix which is profoundly septic and may contain concretions. As regards the closure of the wounds after the removal of the appendix in cases without suppuration, it has been found inadvisable to insert buried sutures of silk, because infection is likely to occur when the lumen of the appendix is cut across. Good results have been obtained with a single row of fishing-gut sutures.

Personal cases of operation for the removal of the vermiform appendix, in which suppuration was absent, have recovered more quickly since they have lain upon their side, and quickly been put on solid food. In cases of appendicitis with perforation or gangrene and acute abscess, the after-treatment requires the greatest skill and watchfulness.

J. F. Baldwin<sup>\*</sup> has practiced inversion of the appendix in considerably more than one hundred cases; not only in cases in which the operation has been made for appendicitis alone, but also in the great majority of cases in which the abdomen has been opened for any reason whatever. The appendix is freed from adhesions if present and brought up into view in the usual way. The tip of the appendix is held by an assistant with one hand, while with the thumb and forefinger of the other the colon is supported just below the origin of the appendix. With a ligature-carrier a catgut ligature

is then introduced at the base of the appendix, so as to include the meso-appendix, care being taken to embrace the small artery that runs along close to the appendix. The meso-appendix is then ligated, the ends of the ligature being left long. With scissors the meso-appendix is severed just beyond the ligature, and the tissues constituting it are then seized either with fingers or forceps and stripped off from the appendix from the base to the tip. Not infrequently, when operating on an acutely inflamed appendix, great thickening of the peritoneal and muscular coats will be found present. These coats will be so infiltrated that inversion is impossible. In such a case a longitudinal incision can be easily made with either knife or scissors, cutting through these two coats down to the mucous membrane. This having been done, the thickened coats are very easily peeled off, leaving merely the mucous membrane intact, which is so thin and soft as to offer slight obstacle to inversion. Not infrequently, however, the distal extremity of this mucous-membrane tube is obliterated as a result of previous inflammatory attacks. In such an event the obliterated end must be snipped off with scissors before proceeding to the next step. Care should be taken not to open into the lumen of the tube.

The appendix having thus been prepared for inversion, the tip is seized between the thumb and forefinger of one hand and inverted by pressing upon it with the blunt end of a patent-eyed needle. The manœuvre is accomplished by a manipulation somewhat similar to that employed in putting a fish-worm on a hook. The tip having been inverted for about the length of the needle, an

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<sup>\*</sup> Med. Record, Jan. 20, 1900.

inch or more, the needle is removed and an ordinary long probe substituted. With this the inversion is completed in an instant. If, as the probe is being introduced into the colon, carrying with it the appendix, it meets with a fold offering obstruction, it should be withdrawn and the remainder of the inversion completed with the fingers. Inversion now being complete, one end of the ligature which had been previously used is threaded into the needle and one or two stitches taken across the opening in the bowel, which marks the point of disappearance of the inverted appendix. The catgut is drawn through until the stump of the meso-appendix is brought up against the opening, and then by tying the two ends the operation is completed.

In a very few cases in which the operation is made for appendicitis conditions will be found which will render inversion impossible or so difficult as to be unwise. These will be cases usually of gangrene of the tissues, or in which there is a tight constriction near the base of the appendix. Fæcal concretions, if present, can usually be readily forced into the colon, and open the way for easier inversion.

The sphere of drainage in surgery of the appendix is believed by W. S. MacLaren<sup>10</sup> to be very limited. Not only does the drain accomplish no good purpose, but it is in itself a factor on the wrong side. It cannot help recovery, but directly militates against it, for it irritates a surface already inflamed. That this irritation is a fact is proved by comparing the dead-house findings in undrained abdominal sections with the histories of those cases that result in recovery in spite of the drainage-tube.

The procedure urged as a substitute for drainage is the same that has been

recommended by Wiggin for a variety of other purposes, and consists in leaving the abdomen filled with saline solution. The peritoneum has, to a certain degree, the ability to resist infection and it is believed that this resisting-power is enormously increased by the presence of the fluid. If an amount of fluid is placed in the peritoneal cavity which will require four or five days for its absorption, it can readily be seen that the infecting material, which, instead of lying in contact with the peritoneum, is diffused throughout the mass of the fluid, will be returned, little by little, to the surface during the absorption of that fluid; and the original amount of infecting material will not be markedly increased, as saline solution is not a culture-medium. In the second place, the infecting material, instead of being left in contact with a small area of peritoneum, is diluted and brought in contact with the entire lining of the peritoneal cavity.

After an operation for appendicitis when the wound has healed and the stitches have been removed, F. B. Harrington<sup>11</sup> thinks that the patient should be taught to make gradual and careful use of the abdominal muscles in order to restore them to their normal tone. For a month after healing a simple supporting swathe may be used, but the prolonged use of abdominal belts or trusses seems undesirable. Gymnastic exercises for the development of the abdominal muscles should be carefully and persistently followed out. Having practiced for two or three months at home those exercises which tend to develop the abdominal muscles, the patient may with safety begin the more active out-door exercises, such as bicycling, rowing, canoe-

<sup>10</sup> Med. Record, Oct. 28, '99.

<sup>11</sup> Boston Med. and Surg. Jour., Aug. 3, '99.



ing, and going, or if his work is laborious he may resume it. The following exercises are suggested for immediate home use, the amount and duration of effort being gradually increased:—

1. Bend the trunk forward, backward, laterally, and, lastly, circularly. At first hands on the hips; to increase work, hands at neck.

2. Lying on back, hands at neck, lift the legs stretched (very slowly) as far as the vertical; lower them slowly.

3. Sit on bench about one foot high, feet supported under bed or bureau, bend trunk backward 45°; hands at hips.

These exercises are desirable even in cases in which some portion of the abdominal muscles or tendons have been cut transversely. If a tendency to protrusion appears an operation to reunite the severed tissues will be desirable.

## BURNS AND SCALDS.

**Treatment.**—According to E. T. Milligan,<sup>12</sup> burns, when under treatment, should be exposed as little as possible by changing dressings. Morphine should be used hypodermically for pain, and tincture of musk by the mouth as a cardiac stimulant. The latter seems to control shock, due to injury. In burns of the first degree an ointment containing a sedative or carron-oil can be applied with advantage. In burns of the second or third degree picric acid in solution (5 to 1000) is an excellent application, but a dry dressing is personally favored. A powder containing 2 1/2 drachms of pulverized camphor and 1 ounce each of prepared chalk and magnesium sulphate is one of the best. When powders are used the injured parts should be covered with oiled silk to keep the dressing from becoming entangled in the injured parts. When prostration

is great, a saline infusion is of marked value.

Ellice M. Alger<sup>13</sup> has found that the combination of picric and citric acids, which Esbach long ago devised for the detection of albumin, is more effective than the picric acid alone, in burns of the second degree.

Esbach's solution consists of 10 parts of picric acid, 20 of citric acid, and 1000 of water. Without any elaborate attempts at antisepsis the bullæ and vesicles should be opened with a clean blade and the fluid applied freely, care being taken that the solution reaches the interior of each one. The combination after the first smart has passed removes the pain very quickly. After the excess of fluid has drained off the part may be covered with rubber tissue or soft gauze and left undisturbed for several days. After two or three days the fluid should be reapplied to such areas as are moist and the part carefully recovered.

R. H. Gay<sup>14</sup> has obtained good results from using the following in burns and scalds: 1 pound of mutton-tallow, 1 drachm of English resin, and 1 drachm of bees-wax should be put into a vessel, perfectly free from grease or other substance, over a slow fire. After the ingredients are melted and thoroughly mixed, they are to be removed from the fire and 1/2 pint of linseed-oil (*linum usitatissimum*) is to be added, stirring until cool to prevent separation. A few minims may be dropped on a smooth surface to cool, to see whether it is of the right consistency or not. If too soft, tallow should be added; if too hard, oil. It is now ready to pour off into boxes for use. The directions for using

<sup>12</sup> Physician and Surgeon, xxi, p. 82, '99.

<sup>13</sup> Ther. Gaz., June 15, '99.

<sup>14</sup> Med. Brief, Dec., '99.

are to spread it on old linen, or cotton, cloth, to a sufficient thickness, large enough to cover the burn or scald, and to renew daily. This preparation is cooling, detergent, and healing, and if instantly applied to burns and scalds will almost immediately stop the pain and prevent blistering.

In the treatment of scalds and burns Edward Roelig<sup>15</sup> finds aristol of great service. After a thorough disinfection and cleansing of the burned area, and the opening of the vesicles, a dressing of aristol salve smeared upon sterilized gauze in a layer of about the thickness of a knife-blade is applied, and this dressing changed daily. The dressing is covered with cotton and held in place with gauze bandages. Granulation and cicatrization occur promptly. In personal cases, at first an aristol salve, consisting of 1  $\frac{1}{2}$  drachms; oil. olive, 2  $\frac{1}{2}$  drachms; lanolin, 10 drachms, was applied, and, when the wound surface had become smaller and granulations had formed, aristol powder was dusted on, and covered with gauze and cotton.

Vehneyer<sup>16</sup> has used with good results an ointment containing fluorin, and sold under the name of "Epidermis," in the treatment of severe burns and scalds. It should be renewed twice a day. Relief of pain, prevention of profuse suppuration, and rapid growth of any islets of undestroyed epidermis are its great advantages.

Naftalan has been found by Richard Bloch<sup>17</sup> to so fully meet the therapeutic indications demanded in burns, whether caused by hot fluids, steam, or heated solids, etc., as to be almost a specific.

The use of saline transfusion for burns and shock is recommended in an editorial,<sup>18</sup> which states that, even if the toxic condition is not directly improved by the saline injections into the

subcutaneous tissues of veins, there is still another one in which this method of treatment may be of great good, in that surgical shock is nearly always present as a result of severe burns and scalds. In shock a condition of profound relaxation of the blood-vessels exists, so that arterial pressure is very low and the vital centres are not properly supplied with blood.

While intravenous injection does not necessarily raise blood-pressure, this method of treatment is capable of readjusting the circulation to such an extent that the evil manifestations of vasomotor paralysis are set aside. It seems, therefore, that, in treating cases of severe burns or scalds, this method of procedure should not be ignored, but should be actively employed.

Patel<sup>19</sup> notes the case of a child, aged 2  $\frac{1}{2}$  years, who had a burn of the second degree, involving, more or less, both arms and legs, face and trunk. The general condition was bad, the pulse imperceptible, and the child unconscious. Caffeine, alcohol, bouillon, and milk were given. On the third day 350 cubic centimetres of saline solution were injected, and on the fourth day the child became for the first time conscious. Between the fourth and twenty-second days six similar injections were given. Until the twentieth day he improved in every respect, but on the twenty-second his general condition was not so favorable, and on the twenty-fourth day he died. At the necropsy the lungs alone presented appreciable lesions: diffuse interstitial pneumonia. The great improvement

<sup>15</sup> *Deutsche med. Zeitung*, No. 36, '98.

<sup>16</sup> *Arch. and General Prat.*, Aug. 19, '98.

<sup>17</sup> *The Haffsdr.*, '98.

<sup>18</sup> *The Lancet*, Dec. 15, '98.

<sup>19</sup> *Lyon Med. Jour. Amer. Med. Assoc.*, Dec. 10, '98.

after the first four injections and the survival of the child for nearly a month seemed to be due to the serum. The cause of death in extensive burns is thought to be due to an autointoxication. Consequently, once the period of shock is passed, the treatment should be directed to freeing the system of the circulating toxin, and for this saline injections answer well. Due attention should also be paid to the emunctories, so as to still further favor the elimination of toxins.

Azzarello<sup>20</sup> divides the theories of the causes of death from burns into four classes: (1) death from shock or extreme pain; (2) embolism, thrombosis, and destruction of the blood-elements; (3) pyæmic infection through the burnt surface; (4) poisons formed by the action of heat on the tissues, or autointoxication from deficient excretion by the skin. By experimenting upon dogs and rabbits, it is personally claimed that the intoxication theory is the correct one. Injection of large quantities of artificial blood-serum subcutaneously appeared to save life in several cases.

### TYPHOID FEVER.

**Diagnosis.**—In some forty tests for the Widal reactions made on soldiers from the Spanish-American War at the Brooklyn Hospital J. M. Van Cott<sup>21</sup> succeeded in getting this reaction for typhoid in all, and the cases went through a typical typhoid. In one suspected typhoid he failed to get it, and on examining the blood for Laveran's *Plasmodium malaria* found it. The case responded promptly to quinine.

The method of procedure is as follows: The finger or ear-lobe is sterilized with alcohol, pricked with a sterile needle, and the drop of blood which escapes either collected on a slide or in

a capillary tube, and at convenience mixed with the bouillon. A "hanging drop" of the mixture is then examined with an oil immersion lens, when the immobilizing and clumping are seen gradually to occur.

Control test is to be made with unadulterated bouillon culture to certify the motility of the germs.

The test is believed to be highly diagnostic when all of the above precautions are strictly observed.

Kasel and Mann<sup>22</sup> think that the Widal reaction in typhoid fever does not permit an early unequivocal diagnosis of the disease. The reaction is an immunity reaction, and not merely a reaction of infection. Due attention being given to the severity of the case, the stronger the reaction, the more favorable is the prognosis. The test has been personally made in 51 individuals who had had typhoid fever. In 20 cases the reaction was positive during the first year after the disease, and in 11 negative. Of those examined more than a year after the fever, 6 were negative and 11 were positive, 1 each after 14, 15  $\frac{1}{2}$ , and 17 months; and 3 after 4  $\frac{1}{2}$ , 2 after 4  $\frac{3}{4}$ , and 1 each after 5, 10, 15, and 21 years. Of the cases in the first year after the disease, 64.5 per cent. were positive. Of 11 cases from the second to the fifth year after the disease, 8, or 72.7 per cent., were positive. If, in a case suspected of typhoid fever, the reaction is very strongly positive, it is connected with the present illness and not with a former attack of the disease. In children under 7 years the reaction is feebler than in older persons, and it dis-

<sup>20</sup> Giorn. Ital. delle Mal. Ven. e della Pelle, fasc. 2, '99.

<sup>21</sup> Brooklyn Med. Jour., Feb., 1900.

<sup>22</sup> Münch. med. Woch., May 2, '99.



appears earlier; nevertheless, it is in children perhaps the most valuable sign of typhoid fever.

Herman M. Biggs<sup>23</sup> observes that in the majority of cases the typhoid bacilli make their way into the circulation at some stage of the disease, as shown by the rose-colored spots and by the demonstration of these organisms in the blood. A negative result from the Widal test cannot be regarded as having much significance, but a positive reaction may be looked upon as almost conclusive proof of the presence of typhoid fever. Nearly all observers are agreed as to the nearly constant presence, in the early stages, of the diazo-reaction of Ehrlich. It may be present between the third and seventh days of the disease—in other words, before the Widal reaction can be obtained, and prior to the time when the clinical symptoms are at all distinctive. Unfortunately it is frequently present also in general miliary tuberculosis: an affection frequently mistaken for typhoid fever.

Carlo Bareggi<sup>24</sup> states that at the hospital in Milan during the last thirty years typhoid fever had been mistaken for acute tuberculosis 52 times and tuberculosis for typhoid 90 times. A simpler test than Widal's consists in observing the behavior of twenty to thirty drops of blood drawn from the fingers of the patient into a small test-tube, and allowed to remain at rest for twenty-four hours. When the resulting coagulum is observed, it is found that in typhoid hardly any serum is formed, the clot is not retracted. In tuberculosis there is marked retraction of the clot from the sides of the tube, and abundant formation of serum.

According to Rostowski,<sup>25</sup> in 346 cases of typhoid fever in von Leube's clinic albuminuria was noted in 205, or in 59.2 per cent. In 37 of these 205 cases there

were, besides the albuminuria, signs of nephritis present, namely: hyaline and epithelial casts. In every case of nephritis which might be classed as idiopathic, but which has a high temperature, the urine should be examined for typhoid bacilli and the blood tested for Widal's reaction.

In speaking of the diagnosis of typhoid fever William Osler<sup>26</sup> says there is no one symptom, there are no two or three symptoms, which, in themselves, are characteristic of the disease. There is no one symptom, there are no two or three symptoms, usually occurring in the disease, which may not be absent during its entire progress. Our diagnosis can never be founded here, as it is in many other instances, on a few positive physical signs. It must always be rational, not absolute. The evidence, upon which our verdict is to be rendered, is wholly circumstantial. Notwithstanding all this, it is still true that there are few general diseases the diagnosis of which is so well established, and so certain, as that of typhoid fever.

Combined infection with the typhoid and malarial germs is exceedingly rare; so rare, indeed, that only a single instance has been met with in the Johns Hopkins Hospital in ten years among nearly one thousand cases of typhoid fever. When it does occur, quinine readily settles the malarial side of the infection, while the typhoid fever pursues its usual course.

The appeal must be made to the hard-worked practitioners of the smaller towns and country districts who find it very hard, in the conditions of their lives, to

<sup>23</sup> Med. Record, Oct. 28, '99.

<sup>24</sup> Gazz. degli Osped., Mar. 12, '99.

<sup>25</sup> Münch. med. Woch., Feb. 14, '99.

<sup>26</sup> N. Y. Med. Jour., Nov. 4, '99.

take advantage of modern scientific methods of diagnosis. They must rely, in great measure, on experience and common sense, and to them he would say: *learn to suspect typhoid fever, and not malaria, in every case of fever of six or seven days' duration, particularly if it resists the action of quinine.*

Moizard<sup>27</sup> notes two cases of enteric fever which have suggested to him the importance of certain diagnostic signs. In both instances acute abdominal pain was an early symptom and was localized at the so-called McBurney point. For somewhat more than a week the diagnosis between typhoid fever and acute appendicitis was in doubt until the evolution of the former disease revealed its true character. From this experience it is found that the following signs are practically differential in such cases, namely: that (1) the abdominal resistance is less marked; (2) the local hyperæsthesia is less; and (3) the constitutional disturbance is less alarming in typhoid fever than in appendicitis.

A. Jacobi<sup>28</sup> states that while the diagnosis of typhoid is mostly easy in the adult, it becomes more difficult in the very young. The differential diagnosis of typhoid in the very young from a catarrhal fever, or influenza, or glandular fever, even from an intestinal auto-infection may remain difficult through many days. The fever-curve is very apt to be irregular, mainly in enfeebled children and in the presence of one of the many complications. There are even some cases in which the disease sets in suddenly with a high temperature; there are those, however, in which a high temperature is apt to be deceptive. A cerebral pneumonia may exist half a week or more without being recognized, until the development of the disease and careful examination clears up the diagnosis.

Influenza may assume the characteristics of typhoid to a certain extent. Meningitis may be recognized, if by no other symptoms, by means of a lumbar puncture and examination of the cerebro-spinal fluid. Altogether a rather slow pulse—when not in proportion to the height of the temperature, the condition of the tongue, the swelling of the spleen, and the presence of roseola—renders the diagnosis secure even without the diazo and Widal tests. In other instances, however, one arrives at a result by exclusion only. There is hardly a single clinical symptom which alone proves the presence of typhoid fever; the simultaneous presence of many is a more perfect guide. The diazo-test is nearly conclusive when tuberculosis and pneumonia may be excluded; it may be expected to be positive in 90 per cent. of all the cases between the end of the first and the middle of the third week. The greatest difficulty is met with in those infants that yield few or no local symptoms except those of a septic infection only. Lymph-nodes are sometimes found tumefied; their swelling in the inguinal region, however, from other causes is so frequent that, when found alone it should not count. The presence of herpes should generally be taken as proof of the absence of typhoid fever. The presence of the bacillus in the discharges would be the best symptom if we commanded a readier practical method for its discovery, provided there be other symptoms which make the case suspicious of being typhoid fever.

**Etiology.**—Thresh and Walter<sup>29</sup> note an outbreak of typhoid fever which was probably caused by eating cockles. These

<sup>27</sup> Jour. de Clin. et de Thér. Inf., Nov. 2, '99.

<sup>28</sup> Pediatrics, Dec. 15, '99.

<sup>29</sup> Brit. Med. Jour., Dec. 16, '99.

were eaten by nearly all the persons attacked, and these cockles were obtained from a source known to be polluted by sewage.

W. H. Park<sup>30</sup> says that the infective material is found chiefly in the discharges from the sick: in the fæces and urine principally. The length of time the bacilli remain in the fæces is very variable; sometimes it is only a few hours, but usually they do not disappear for several days. Typhoid bacilli cannot usually be detected in water for more than fourteen days. A rather unique case of infection from ice has been recently reported. Typhoid fæces had been thrown upon the ice of a certain lake in January, and the disease had developed the following July only among the families supplied with that ice. Typhoid bacilli are not found in the urine until the third week or possibly much later, yet after this time they appear in pure culture and in enormous numbers. They often persist in the urine for weeks or months. A case of cystitis, therefore, developing shortly after an attack of typhoid fever should be suspected at once of being the result of typhoid infection. Disinfection of the urine should always be insisted upon and the patients warned of the great need for carefully disinfecting their urine and fæces for a number of weeks after convalescence from typhoid fever. The bacilli disappear more rapidly under the administration of urotropin, in doses of 10 grains three times a day.

**Prognosis.**—According to Hugh M. Taylor,<sup>31</sup> typhoid perforation is credited with a mortality of 16,666 each year in the United States. If these statistics are even approximately correct, and if surgical intervention is indicated in all typhoid perforations, there are 16,666 cases in the United States each year upon

which operation should be performed, and, even if successes in the future are no greater than they have been in the past, one-fourth of 16,666, or 4166, lives each year would be saved. It would seem a settled fact that the typhoid perforation is, in every instance, essentially a surgical complication, and equally so, certainly in the incipency of its existence, a legitimate field for operative intervention. There is nothing to justify the hope that recovery is possible through any resources other than those essentially surgical.

It is true, in exceptional instances, recovery has been claimed to have occurred spontaneously.

Penot<sup>32</sup> shows that pregnancy offers no immunity to typhoid. Abortion takes place in a considerable number of cases, the average being about 65 per cent. The particular characters of the attacks, according as it is slight or severe, have considerable influence on the probability of abortion, also the period of pregnancy at which typhoid supervenes, abortion apparently taking place during the first six months, but more especially during the third, fourth, and fifth. Pregnancy itself does not seem to render the prognosis of the typhoid fever any worse. Generally speaking, abortion is followed by considerable improvement in the general symptoms, provided the case be not unduly severe. When, however, it takes place in very adynamic conditions, the results may be grave.

Maragliano<sup>33</sup> remarks that when true meningitic symptoms occur in the course of typhoid it is nearly always fatal.

**Diet.**—Coffee, tea, thin gruel, egg-nog,

<sup>30</sup> Med. Record, Oct. 28, '99.

<sup>31</sup> Annals of Gynec. and Ped., Jan., 1900.

<sup>32</sup> Thèse de Paris, '99.

<sup>33</sup> Gazz. degli Osped. e dell. Clin., Apr. 16, '99.



clear soups, koumyss, and soft-boiled eggs are among the articles of food permitted patients, even at the height of the disease, by F. C. Finlay.<sup>34</sup> The urine of patients subjected to cold baths is greatly increased in toxicity, the kidneys being stimulated by the nervous system. Toxæmia is less common in these patients. Intestinal antiseptics may be added to the bath treatment.

W. S. Thayer<sup>35</sup> says Bushuyev, in a paper upon typhoid, states that he knows of nothing to support the view held by some that injury to the intestinal walls by solid food might provoke a re-entrance of the bacilli and an increased frequency to relapses. In a series of 80 cases treated by him, and placed on the following diet, the mortality was 10 per cent. This plan has been carried out for two years:—

7 A.M. Tea with a roll.

8 A.M. Twelve and one-half ounces of soft (liquid) oatmeal-, barley-, or wheat-porridge, with butter.

9 A.M. One or two boiled eggs, soft or hard, as the patient desires.

10 to 11 A.M. A glass ( $6\frac{1}{4}$  to 7 ounces) of milk with a roll, one-half a cutlet, and a bit of boiled meat (5 to  $5\frac{1}{4}$  ounces).

12 to 12.30 P.M. A plate (7 ounces) of chicken-soup or a bowl of ordinary soup, sometimes with a bit of chicken from the soup and a small cup of kisel (a sort of sour jelly); rarely, a little preserved fruit.

3 P.M. Tea with a roll.

6 P.M. A cup of chicken- or beef-soup; semolina pudding or milk; a bit of chicken.

8 P.M. Milk with a roll.

During the night coffee or tea with milk, two or four times; coffee with cognac.

For dinner and supper the white bread

may be replaced with black (with the crust), and the soup by a thick wheat-gruel. As beverages, the patients were allowed cold water, boiled or unboiled; cranberry-juice; milk of almonds, and small amounts of beer. In addition, all patients received 1 to 3 ounces of wine in the morning. Patients when quietly sleeping were not awakened either for food or medicine.

In a series of 74 cases treated in the same military hospital by his colleague, Sartsievich, the diet consisting of milk and soft-boiled eggs; the mortality was 12.1 per cent. During the year 1897, under a liberal diet, Bushuyev lost 26 out of 318 patients, or 8.2 per cent. In commenting upon this paper, it is stated that such observations as those of Shattuck and Bushuyev are the best proofs that there is no special condition in typhoid fever which contra-indicates rational liberal feeding. Bearing in mind the frequency of intestinal lesion, we should, of course, avoid substances which leave an undue residue, but the general course of the case would improve, convalescence would be quicker, and lives would actually be saved, if more attention were paid to the treatment of the patient than to that of the disease as such.

R. W. Marsden<sup>36</sup> has employed a less-restricted diet than is usual in typhoid fever, in 200 cases. He upholds the necessity for the retention of definite rules in the dieting of typhoid fever. The dietary for these 200 patients has been almost identical with that usually allowed, though it has been much altered in its application. Thus, all patients

<sup>34</sup> Montreal Med. Jour., vol. xxviii, No. 2, '99.

<sup>35</sup> Progressive Med., Mar., '99.

<sup>36</sup> Lancet, Jan. 13, 1900.

have received milk only at first and have passed through the usual stages with greater or less rapidity according to their condition. The patient in a mild case without contra-indication would receive on successive days bread and milk with custard, fish with mashed potatoes, chicken, bread and butter, and, finally, minced meat, remaining at this stage until convalescence was well established; whereas in a severe case peptonized milk alone or with meat-juice, etc., might have to be continued well into the "period of convalescence." The individual patient and his condition have been alone considered and slight exacerbations of temperature or occasional irregularities of the bowels have not *per se* caused the withdrawal of the food when no evidence existed of a distinct causal connection. The patient's wishes constitute a most important help; his actions are an almost infallible guide. On no occasion has solid food been forced upon a patient. As a rule, if they have not been the *vis a tergo*, they have at any rate accepted cheerfully what has been given. In 100 cases fish was allowed prior to the termination of defervescence; in 36 cases it was given on the day on which defervescence might be said to be complete, even though the temperature was not settled; while in 64 cases it was given subsequent to the completion of the defervescence. If, however, one takes the day on which, the evening temperature being normal, a period of twenty-four hours' normal temperature followed, then in 151 cases fish was given before that day, in 16 cases coincidently with it, and in 33 cases subsequently to it, viz.: in 12 cases one day after, in 3 cases two days after, in 10 cases three days after, in 5 cases four days after, in 2 cases five days after, and in 1 case eight days after.

From a review of these 200 cases it

must be concluded that a careful system of dieting, such as has been mentioned, has no injurious consequences, and when one considers the benefits obtained, — viz.: more rapid recovery, diminished risk of surreptitious feeding with possible harmful substances, lessened tendency to bolt food when allowed without proper mastication, and, finally, lessened tendency to asthenic complications, as post-typhoid anæmia, gangrene, etc., — one must admit there is no justification for resisting a craving appetite in the manner at present in vogue.

G. W. Moorehouse<sup>37</sup> states that during 8 months 57 cases of typhoid fever were treated at Lakeside Hospital, and 35 of these on return of the appetite were fed without regard to the temperature. The feeding was usually kept up during relapse unless the appetite diminished with the increase of temperature, which did not commonly occur. In the fatal cases there had been no return of the appetite, and they had been fed only milk. Five died, a mortality of 8.8 per cent., and 11 had relapses, or 19 per cent. Well-cooked rice, soft-boiled or poached eggs on soft toast, macaroni, *blanc-mange*, thickened soups, crackers with milk, scraped beef, and minced chicken comprised the dietary of these patients. With this diet the majority of the patients were satisfied until their temperatures had been normal for some time, and later they were fed still more liberally, but not until they would ordinarily have received full diet. The general condition of typhoid-fever patients improved greatly under food, no hæmorrhage or perforation occurred after its administration, but the percentage of relapses to the whole number of cases was rather high.

<sup>37</sup> Phila. Med. Jour., Jan. 13, 1900.

In a series of eight cases, four males and four females, Morris Manges<sup>28</sup> used the plan of treatment ordinarily pursued at the Mount Sinai Hospital: *i.e.*, a minimum amount of medication, usually including only dilute hydrochloric acid and stimulants, unless some special indications should arise. Plunges at 90° to 80° F. or cold packs were the routines for high temperatures. The majority of the cases were of the severe type.

The diet allowed was the soft diet of the hospital. This includes soft-boiled eggs, milk, milk-toast, custard, strained jellies, chicken, rice, farina, strained oatmeal and other cereals, softened soda-crackers, and baked potatoes. One and all the patients relished their food. That they digested the food was proved by the constant supervision of the stools. Diarrhoea was not present in any larger proportion than is usual in this disease. The tongues were always moist, whether they were coated or not. The food was tolerated in every way, and that it was absorbed was manifest from the fact that, as a rule, these patients emaciated less rapidly than the others who were under liquid-food treatment at the same time. The better nutrition of these patients was also demonstrated by blood-counts, which were made for other purposes on two of them, both of which ran severe courses.

There were no deaths, although, according to the high average mortality of the hospital for this year, we should have expected at least one death. There were no hæmorrhages. Perforation and, indeed, all peritoneal symptoms were absent. Likewise there were no thromboses.

Relapses were reported in two cases. Of these one occurred three weeks after the patient's discharge from the hospital, and can therefore hardly be at-

tributed to the increased diet. The larger statistics of Fitz and Shattuck demonstrate that relapses are less under full diet than they are on a liquid *régime*. It is not advised that each and every patient be placed upon these less-restricted diets, nor that every article of diet may be allowed. The question has not yet been sufficiently studied to justify one in giving any sweeping directions. Enough material has, however, been gathered by such trustworthy clinicians as Fitz and Shattuck to justify physicians, especially those who have the advantages of hospital services, in giving an extended trial to the more liberal feeding of typhoid-fever patients.

John Harrigan<sup>29</sup> says that, during three months ending September 30th, 31 cases of typhoid fever have been treated in St. Mary's Hospital with 28 recoveries.

The greatest possible care was exercised with regard to diet. Milk was used but sparingly, and never alone. It was given sometimes with equal parts of barley- or rice- water; and with equal parts of water, it entered into the preparation of farina-gruel, which was much used. Equal parts of milk and water, to which egg-albumin was added, formed the diet in special cases. Broths made from beef, mutton, or chicken, to which rice, barley, selected vegetables, and spices were added, were employed in preference to milk when used alone. All particles of solid matter and all fats were removed from the broths by having them thoroughly strained and skimmed before they were served. When patients were able to take but a very small quantity of nourishment, beef-juice and cream with aerated water were given. When-

<sup>28</sup> Med. Rec., Jan. 6, 1900.

<sup>29</sup> Brooklyn Med. Jour., Feb., 1900.



ever vomiting set in, the diet and drink were limited to a mixture of equal parts of milk and water, to which egg-albumin was added; this was given in small quantities at frequent intervals. A mixture of milk, water, and cream, to which oxalate of cerium and subcarbonate of bismuth were added, was also used. Two exceptionally severe cases that resisted other treatment were relieved by the judicious use of champagne and nitroglycerin.

When diarrhoea occurred, the broths and gruel were stopped, and beef-juice and cream were employed instead: for drink, a mixture of milk and water with egg-albumin was given. When this means failed, bismuth and opium were administered.

J. S. Waterman<sup>40</sup> has found the use of broths of greater service than an entirely milk diet, owing to the fact that there is much less tympanites in these cases, and much less tendency to diarrhoea.

An editorial<sup>41</sup> remarks that, so far as we know, there is no condition present in typhoid fever which contra-indicates the use of other forms of soft food than milk, except, of course, the animal broths, which are apt to produce diarrhoea because they act as culture-media for the micro-organisms present in the bowel. It is personal habit to give typhoid-fever patients at least two raw, or soft-boiled, eggs a day, and sometimes as many as four eggs in twenty-four hours; to give them with this at least a quart of milk, which is neither poor nor exceedingly rich in quality; and, when the acme of the fever is passed, to allow them rice which has been made into a pulp after being thoroughly boiled, and a few days later, if it agrees with them, egg-custards, rice-pudding, and corn-starch. It is believed

that this method will give better results by far than a strictly milk diet.

In typhoid fever Speidel<sup>42</sup> advises primary evacuation of the gastro-intestinal tract and total abstinence from all food for five or six days. Water should be given at regular intervals during the waking hours. From the onset of the disease a daily rectal irrigation with a half-gallon of normal saline solution cleanses the lower bowel, and through the retention of a large part of the fluid furnishes, not only water to the tissues, but a definite quantity of sodium chloride. In cases of intestinal hæmorrhages rectal irrigation is forbidden, and in such cases water should be administered interstitially. Buttermilk should be given in proportion to the digestive capacity as indicated by the absence of undigested food in the stools and by the temperature. Variations of milk diet calculated to tempt the patient, and, during the decline of fever, the administration of broths of various sorts, and during convalescence the foods ordinarily recommended are to be given.

**Treatment.**—In a number of cases of typhoid fever  $\frac{1}{100}$  grain of copper arsenite, with 1 minim of nuclein solution in the form of tablet triturates has been given by John Aulde<sup>43</sup> at intervals of three hours from 6 A.M. to 9 P.M. daily, with seemingly remarkable results. The duration of the fever was invariably shortened and its character changed. Where the stomach is rebellious or when the anticipated medicinal effect is not observed, the nuclein should be given hypodermically in doses

<sup>40</sup> Brooklyn Med. Jour., Feb., 1900.

<sup>41</sup> Ther. Gaz., Jan. 15, 1900.

<sup>42</sup> N. Y. Med. Jour., Dec. 30, '99.

<sup>43</sup> *Ibid.*, Feb. 11, '99.

of 5 minims, once daily. The copper arsenite exerts an important influence upon the cellular structures and nerve-supply of the small intestine, while the nuclein stimulates the leucocytic function.

Wilcox<sup>44</sup> calls attention to the efficacy of chlorine in the treatment of typhoid fever. After four years of observation the conclusions presented in a former paper are reiterated:—

1. That in the treatment of typhoid fever chlorine can be safely administered until complete disinfection of the alimentary canal is obtained.

2. Under its use the tongue becomes cleaner, the appetite and digestion better; the fever lower, and the stools devoid of odor save that due to chlorine.

3. The general strength, intellectual processes, and nervous conditions improve.

4. The disease is shortened in duration and the patient usually proceeds to a rapid and complete recovery.

According to Albert Woldert,<sup>45</sup> naphthalin has given favorable results in the treatment of eight cases of typhoid fever. It is especially indicated at the onset of tympanites; after paralysis of the bowel has occurred from overdistension it does no good. None of the patients required any stimulant throughout the disease, and a good recovery followed in all.

In typhoid fever T. V. Hubbard<sup>46</sup> gives calomel,  $\frac{1}{2}$  grain; guaiacol carbonate, 2 grains; podophyllin,  $\frac{1}{20}$  grain, in capsule every two hours for one or two days, depending on the condition of the bowels. This is continued until four or five intestinal evacuations have resulted for two successive days. The calomel is then omitted, and  $\frac{1}{2}$  grain of menthol is added to the other drugs. If the bowels become inactive on discontinuing the calomel, small doses of

salts or of Hunyadi water are given in the morning. Depending on the temperature and tympanites, at least two evacuations are required daily. If the temperature remains high or rises after four or five days' treatment, calomel is again given as above for twenty-four hours. The administration of guaiacol, menthol, and podophyllin is continued throughout the disease. Occasional spongings or ablutions with cold water are advised. With this method of treatment digestion is more satisfactory, and more food is recommended than these patients received under the old *régime*. Average duration of the disease in 97 tabulated cases was  $14\frac{2}{5}$  days. Stimulants are rarely required; delirium and complications are practically unknown.

According to W. H. Thomson,<sup>47</sup> there occurred at the Roosevelt Hospital in ten years 368 cases, 275 being males and 93 females. The total number of deaths was 25, or 6.8 per cent. Of those who died, 14, or 56 per cent., succumbed within a week after admission. The treatment consisted in the use of a purge of calomel and jalap every third night, up to the close of the second week. Equal parts of milk and lime-water was the exclusive diet until the end of the fourth week. Ten grains each of pepsin and bismuth were given every three hours. As soon as the tip of the tongue became dry 10 to 20 minims of spirit of turpentine were given every three hours. To combat the general toxæmia, the general cool bath was employed as soon as the temperature reached  $103^{\circ}$  F., and active friction was kept up dur-

<sup>44</sup> Med. News, Feb. 11, '99.

<sup>45</sup> Phila. Med. Jour., Apr. 22, '99.

<sup>46</sup> Virginia Med. Semimonthly, No. 77, vol. IV, '99.

<sup>47</sup> Med. Record, Oct. 30, '99.

ing the bath. There was less depression and a more prolonged antipyretic effect from the artificial Nauheim baths. Rectal irrigations with saline solution were used with the object of increasing elimination.

C. D. Miller<sup>48</sup> has found the following treatment pre-eminently and undeviatingly successful in every case treated during the past ten years:—

For adults:—

R Tinct. iodine,  
Carbolic acid, of each, 10 drops.  
Distilled water,  
Syrup, of each, 2 fluidounces.

M. Sig.: A teaspoonful in a little cold water every two hours.

By this mode of administration the patient receives about  $\frac{1}{3}$  drop of each medicament in a palatable form, and at such intervals as to produce the most gradual and gratifying results.

H. E. Ballard<sup>49</sup> gives the following directions regarding bath treatment in typhoid fever:—

The patient receives a full bath at about the temperature of the room every three hours when the temperature in the rectum reaches 102.2° F. or over; in the axilla, 101.5° F. or over.

The temperature of the bath will vary from 65° to 75° F. In extremely warm weather it may be found necessary to cool the bath by ice. The patient usually remains in the bath fifteen minutes. Where the temperature is exceedingly high, or rises rapidly, he may remain in the bath as long as twenty minutes.

While in the bath the patient is systematically rubbed by the attendants and the head is frequently bathed with ice-water.

The tub is placed by the side of the bed, and parallel to it at the distance of about a yard. The patient's night-dress

is removed under the bed-covering; his body is covered with a sheet or a large folded napkin wrapped about the loins, and he is lifted from the bed into the bath.

If the patient is asleep, he is not bathed for fifteen or twenty minutes after being aroused. If he is sweating, he is first thoroughly dried. The patient's head and shoulders should be supported by a pad while in the tub. The water should cover the entire body to the neck. Upon entering the bath he receives an ounce of spirits. After eight or ten minutes in the bath shivering usually takes place, and the face and extremities may become slightly cyanotic. While the patient is in the bath his bed is covered with a rubber sheet; over this are placed a blanket and an ordinary sheet. The patient is lifted out and laid upon the bed thus arranged, tucked in the sheets, and covered with a blanket. In the course of 15 minutes he is thoroughly dried and the night-dress is replaced.

About the time reaction is established the patient receives nourishment, and usually falls into a natural sleep.

If there should be marked cardiac asthenia or delayed reaction, the patient should be at once dried and given a little hot sling and a hot-water bag at the feet. Friction to the spine will also give comfort where there is much chilliness after leaving the bath.

For patients in private practice the tub may be filled with water once in twenty-four hours. If at the end of three hours the temperature has not risen above the given point, the patient is not disturbed until another three hours have passed, unless nervous symptoms arise, or there is manifest high temperature

<sup>48</sup> Merck's Archives, Jan., 1900.

<sup>49</sup> N. Y. Med. Jour., Nov. 11, '99.



present, in which case he may have the bath sooner.

The principal contra-indications for the bath are intestinal hæmorrhage and peritonitis.

Whenever there is evident indication for medicinal treatment, it is, of course, used, but in the vast majority of cases there will be no call for a single dose of medicine.

J. C. Wilson<sup>50</sup> says that in the German Hospital in Philadelphia the cases are treated systematically by cold bathing, according to the method of Brand, but under no circumstances are the internal antipyretics used. In theory the object is to eliminate the toxins of the disease as rapidly as possible, and to avoid introducing into the blood-current toxic drugs, such as acetanilid, phenacetin, etc., the perturbing effects of which are so marked.

Brand and all those who have carefully carried out his treatment on an extended scale concur in the view that the cold-bath treatment is not of itself an antipyretic method. The reduction of temperature is one of a group of effects produced by systematic cold bathing. Another effect to which too little attention is paid is the action of the cold bath on the kidneys as organs of elimination, the toxic coefficient of the urine after the bath having been demonstrated to be increased from five to six times.

Albuminuria is much more common, and more marked in cases treated by systematic cold bathing than by the expectant method, but it is a transient condition, disappearing with the recovery. The plan has been adopted of having the bath-tub stationary in the small fever wards in the above hospital, and, due consideration being had to the condition of individual patients, allow-

ing them to walk to the tub with the assistance of the attendants. In this way the patient is aroused from his recumbent posture regularly every third hour, walks to the bath or is carried there by the attendants, and returned to his bed afterward. This plan has been practiced since January 11, '97, and the results have been entirely satisfactory. In 165 cases of enteric fever treated during the year 1897 the mortality was 6.5 per cent.

For hæmorrhage in typhoid, the application of a Leiter coil over the abdomen and elevation of the foot of the bed are recommended by Stewart.<sup>51</sup> Opium should be given in sufficient quantity to cause either slight drowsiness or contraction of the pupil. In cases of perforation, operation at the earliest moment is recommended. Keen has collected 83 cases with 18 recoveries.

From a study of the recorded cases of the surgical treatment of perforation of the intestine in typhoid fever Waring<sup>52</sup> draws the following conclusions:—

1. That an operative procedure ought to be carried out in all cases of perforation of typhoid ulcers when the patient is not moribund, or so seriously ill from the primary affection that he is not likely to stand a somewhat severe operation.

2. That the operative procedure should comprise opening the abdomen either in the right linea semilunaris or the linea alba below the umbilicus; locating the seat of perforation; suture of the perforation by the insertion of a series of fine silk sutures applied after Lembert's method; sponging the affected portions of peritoneum, and freeing them from all traces of contamination by intestinal

<sup>50</sup> Jour. Amer. Med. Assoc., Sept. 2, '99.

<sup>51</sup> Montreal Med. Jour., Feb., '99.

<sup>52</sup> Quarterly Med. Jour., Apr., '99.

contents; partial closure of the parietal wound and insertion of a gauze drain, which is passed down to the region of the sutured ulcers. (In searching for the perforation, the lower portion of the ileum should be examined, next the region of the vermiform appendix and cæcum, and finally that of the sigmoid flexure.)

Peritonitis of sudden onset may come on during the course of typhoid fever, owing to the rupture of a gall-bladder which has become infected and filled with pus, or the rupture of a suppurating lymphatic gland in the mesentery. These possibilities should be borne in mind if any difficulty be experienced in locating the perforation after the abdomen has been opened.

Platt<sup>53</sup> illustrates the advantage of

early operation in typhoid perforation by the following statistics: Of 17 cases operated on within 12 hours, 4, or 23.5 per cent., recovered; of 26 cases operated on between 12 and 24 hours, 9, or 34.6 per cent., recovered; of 14 cases operated on between 24 and 48 hours, 1, or 7.1 per cent., recovered; of 6 cases operated on between 2 and 3 days, 6, or 33.3 per cent., recovered; of 4 cases operated on between 3 and 4 days, none recovered; of 1 case operated on after 5 days, none recovered; of 1 case operated on after 35 days, none recovered. It is advised to defer the operation until the primary shock—which, as a rule, lasts for a few hours—has somewhat passed off.

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<sup>53</sup> Lancet, Feb. 25, '99.

## Cyclopædia of Current Literature.

### ALCOHOL IN HEALTH AND DISEASE.

According to the scientific view, alcohol is powerless to prevent, but temporarily allays, fatigue. In old age, and in certain conditions of debility, moderate indulgence in alcohol is beneficial. Alcohol should not be used by healthy people habitually as an appetizer. Mixed drinks and alcoholized tonics are much more harmful than pure spirits. Alcohol is often useful, sometimes indispensable, in pneumonia, typhoid fever, diphtheria, sepsis, and other serious acute diseases. It is a dangerous remedy in many nervous disorders or if continued regularly for long periods. Physicians should prescribe alcohol only when physiologically indicated; they should insist that the physiology taught in the public schools should not be a distorted physiology; they should discountenance the giving of alcoholic beverages to children

except on a physician's prescription, and they should demand that the amount of alcohol contained in bitters and tonics be printed on the bottle. H. L. Taylor (Med. Record, Jan. 27, 1900).

Alcohol is absolutely unnecessary for the preservation of health. The social side of this question is an entirely different matter. It is probable that the majority of persons would live longer if they did not use alcohol habitually, even in moderation. The use of alcohol cannot be continued for long without lessening the resistance of the tissues and leading to more or less deleterious effects. Much depends upon constitutional peculiarities and general habits of life. Of course, alcohol should be distinctly prohibited to persons having a strong hereditary tendency to its excessive use. Finally, alcohol used properly for medicinal purposes undoubtedly

saves life in acute diseases, as it constitutes a valuable means of tiding over a crisis. In some of these cases alcohol acts not only as a cardiac stimulant, but as a true food. W. Gilman Thompson (*Med. Record*, Jan. 27, 1900).

### ANAL SPHINCTER, RENTS OF.

**Treatment.**—Personal operation for the closure, by buried sutures, of rents which implicate the anal sphincter is as follows:—

After the perineum, completely ruptured through the sphincter, has been thoroughly refreshed and the ends of the sphincter have been laid bare, a row of catgut stitches is taken, bringing together the rectal wall, particular care being taken to bring the stitches out exactly on the edge of the mucous membrane, not entering the calibre of the bowel. The outermost of these stitches include the divided ends of the sphincter-muscle. When this row of stitches is tied, the rectum is entirely closed off from the wound and there is left a surface resembling that of a rupture of the perineum of the second grade, in which the rectum is not involved. A second row of buried catgut sutures is then taken, and with these stitches the ruptured pelvic fascia, the levator-ani muscle, and the ends of the transverse perineal and sphincter-vaginæ muscles are drawn together. In this way a solid perineal body is constructed. Three rows of stitches are often used in accomplishing this.

Finally, the mucous membrane of the vagina, and the skin surface are closed in. The "purse-string" stitch of Emmet is not infrequently used in conjunction with this method of suturing. The result of this method has been the construction of a perineum of greater solidity and depth than has been obtained

in personal hands by any other method. The buried stitches have in no instance given trouble.

The suture material used is chromicized catgut. A small size of the gut (No. 1) is selected, and, when the strain is great, a double strand is used. A. T. Cabot (*Boston Med. and Surg. Jour.*, Dec. 28, '99).

### ANEURISM.

**Treatment.**—A silver or gold wire, about 0.0085 inch in diameter, and of sufficient temper to retain its coil, would seem to be all that is required to fill, when carrying the positive galvanic current, an aneurism with clots, and is not so thin as to be in danger of breaking. James C. Reeve, Jr. (*Annals of Surg.*, Dec., '99).

**GELATIN.**—From personal experience with the gelatin treatment in 9 cases of aneurism the following conclusions may be drawn:—

1. In not a single instance has the aneurism been cured, although in one case the abdominal aneurism has diminished considerably in size and the case is still under treatment.

2. In seven of the nine cases there was an appreciable diminution in the subjective symptoms referable to the pressure of the aneurism.

3. It seems quite certain that the subcutaneous injection of gelatin solution does materially increase the coagulability of the blood.

4. Contrary to the statement of Lancereaux, the gelatin injections are frequently very painful to the patient, the pain lasting and being most intense often as late as six hours after the injection.

5. Although Lancereaux states that with strict antiseptic and aseptic precautions there should be no elevation of temperature, the contrary has been per-



sonally found. In several instances the injections were followed, two to four hours later, by a distinct chill, with an elevation of temperature reaching at times as high as 103° F. In no case was there any local suppuration, and in only one case was there even any local reaction.

6. Notwithstanding the fact that not one of the nine cases can be reported as cured, there is some merit in the treatment, and it deserves a further trial. Thomas B. Fitcher (Jour. Amer. Med. Assoc., Jan. 27, 1900).

### CARCINOMA OF THE CERVIX.

**Treatment.**—An improved method of operating for carcinoma of the cervix by removal through the vagina is as follows: After catheterizing the ureters so that they may be constantly kept out of harm's way, the vaginal vault is exposed and an incision made around the cervix well down the vagina at a long distance from the disease, so as to avoid local recurrence in the vagina. Then with blunt force, the fingers covered with gloves, the bladder is dissected from the uterus, and if it should be involved it is cut through so as to leave as large a piece as possible sticking to the uterus to sew up after the operation is completed. The cervix is then caught with forceps and pulled down as far as possible and the second pair of forceps applied, and so on, climbing up until the fundus of the uterus is reached. Drawing that out of the vagina to the vulva, without applying any ligatures or sutures, the uterus is bisected from fundus to cervix and the two halves left hinged at the broad ligaments. Then the upper part of one broad ligament is tied off at a distance from the uterus and cut off, thus removing a fourth part of the organ. The second quadrant is removed in the

same way and then, clamping the cervix, there is ample room now to work around it with ease and remove all parts desired. Kelly (Phila. Med. Jour., Dec. 23, '99).

### CATHETERISM, ASEPTIC.

The prophylactic injection of a 5-per-cent. emulsion of iodoform in glycerin before the introduction of an instrument in the urethra is advocated. If an abrasion is caused, the iodoform will come in contact with the wound at the very moment it is made, and with the wound-serum at *stadium nascendi*. Iodine is set free, and during this chemical process bacteria are destroyed or their development at least is arrested.

There are three most important virtues required in catheterism: Thorough cleanliness, extreme delicacy, and much patience. The same principles should be upheld if the patients are instructed to catheterize themselves. From a scientific stand-point, the trusting of such a surgical procedure to a layman is to be deplored, and such risky commissions should be resorted to only under the most pressing circumstances. Soft catheters should be chosen, and the fact that their usefulness is soon destroyed by repeated boiling should not be allowed to carry much weight in such a serious consideration. Carl Beck (Med. News, Jan. 6, 1900).

### CHILD BORN OF AN ECLAMPTIC MOTHER, TREATMENT OF.

The child born of an eclamptic mother must be carefully watched. If premature, it should be placed in an incubator, and the intestine thoroughly douched with warm slightly alkaline water once daily. Care should be taken to avoid chilling the child in any way, and it should be given as much water as it will take. It should not nurse

from the mother for ten days after her recovery from eclampsia. If healthy breast-milk is available, this may be diluted one-half with warm sterile water and dropped into the mouth by a medicine-dropper. If such is not available, pancreatized diluted cows' milk may be employed. Edward P. Davis (*Ther. Gaz.*, Dec. 15, '99).

### DEAFNESS, HEREDITARY.

**Prophylaxis.**—As a preventive measure against the increase of deaf-mutism, deaf-mutes should be separated as much as possible from one another, as this association encourages marriage, by which the tendency to deaf-mutism is increased. As the oral method is now more generally taught, deaf-mutes who have acquired this are no longer limited to signs, which practically cuts them off from society. As these are no longer isolated as formerly, the inducement to marry partners similarly affected is not therefore as great as was formerly the case.

The marriages of deaf-mutes between whom blood relation exists even to a distant degree should be strongly interdicted, as the possibility of deaf offspring is exceedingly great. The ordinary dangers of consanguineous marriages are aggravated in cases in which there is deafness on one side, as statistics show a tendency to deaf offspring in these cases. Although the majority of writers appear to consider acquired deafness a much lesser evil than congenital in the transmission of deafness, it undoubtedly shows a predisposition toward deafness, so that it differs from the latter only in degree. W. Scheppegegrell (*Amer. Jour. Med. Sci.*, Feb., 1900).

### DIETHYL-GLYCOCOLL-GUAIACOL.

Diethyl-glycocoll-guaiacol is an easily soluble salt which lacks the undesirable

properties of creasote and its derivatives. This salt is non-poisonous and non-irritating in moderate concentration. In its antiseptic powers it equals boric acid and is also slightly anæsthetic. Forty-five to 180 grains daily may be safely taken. It is of value in pulmonary tuberculosis and in tuberculous diarrhoeas; and locally in ozæna; sarcomatous, carcinomatous, and syphilitic ulcers; stomatitis; chronic conjunctivitis; emphysema alveolaris; and as irrigations in pyloric stenosis and bladder inflammation. A. Einhorn (*Münch. med. Woch.*, Jan. 2, 1900).

### DIPHTHERIA.

**Serum Treatment.**—Of 27 consecutive cases of diphtheria treated with antidiphtheritic serum all recovered; 24 of them were cases of moderate severity; the remaining 3 were very severe cases, 1 of them requiring tracheotomy. Fifteen hundred units were used if the case was seen on the first day, and from 3000 to 6000 if injected on subsequent days. The tracheotomy case was not injected until the third day, and serum—4000 units—twelve months' old was used. Burroughs & Wellcome's serum was used in all cases. Six of the cases showed post-diphtheritic paralysis. All were inoculated, with full antiseptic precautions, under the skin of the abdomen. Five cases exhibited antitoxin rashes, urticarial or scarlatiniform, from the seventh to the thirteenth day after inoculation. No case of abscess at the point of injection or joint pains occurred. In the 49 cases in which antidiphtheritic serum was used prophylactically no case of diphtheria occurred, though the cases treated thus were all relatives (with the exception of myself and a nurse) living in close intimacy, sleeping in the same room

and often in the same bed as a patient actually suffering from diphtheria, and inhabiting mostly small cottages. In several cases the children of a family succumbed one after another until the parents, fearing lest the whole family should be prostrated, finally and unwillingly allowed the rest to be protected by inoculation, when the progress of the disease was at once stopped and no further case occurred.

It seems that the prophylactic use of antidiphtheritic serum confers complete immunity for a certain period,—the length of which is not known,—and should be resorted to as unhesitatingly as vaccination is resorted to in the case of the relatives and immediate attendants of a small-pox patient. There is no pain, no after-effects, no interference with a person's ordinary pursuits, and, above all, it relieves the mind of nervous persons from the dread of catching diphtheria. H. W. Mills (*Lancet*, Dec. 30, '99).

### ELECTROLYSIS IN STRICTURE OF THE EUSTACHIAN TUBE.

In electrolytic dilatation of strictures of the Eustachian tube a bougie that protrudes an inch and a half, or more, according to the necessities of the case, is employed at the New York Eye and Ear Hospital. The catheter is solid silver and is insulated by being wrapped with a piece of rubber tissue. It is in size about No. 3 or No. 4 of the French scale. The bougie is made of solid gold. The olive-pointed end fits into the aperture of the Eustachian catheter. Both instruments may be thoroughly sterilized by boiling. Before its use, to avoid infecting the tube, the nose and pharynx should be rendered as thoroughly aseptic as possible by the use of an antiseptic, such as Dobell's or Seiler's

fluid. The bougie after the insertion of the catheter into the Eustachian tube should be introduced until it meets with an obstruction. No pressure should be used, but a current of from 1 to 3 milliamperes should be allowed to flow for a few minutes. Usually the instrument will pass after a short interval. If after from three to five minutes it does not, the current should be increased to 5 milliamperes. As a rule, the bougie then passes the obstruction without pressure. Patients will tell of hearing bubbles in their ears, which shows that the electric current is melting the sclerotic tissue of the strictured tube. At the New York Eye and Ear Infirmary, where this method has been in use now for considerably more than a year, some fifty cases have been tabulated. In all most satisfactory results have been obtained.

Progressive deafness is usually caused by atrophy and sclerosis of the tissues of the middle ear. The inflammation of the tube is only local, and practically always produces a stricture. The indication is to remove this obstruction as soon as possible. The easiest, quickest, and most efficient method of accomplishing this is by electrolytic action. Strictures thus relieved do not recur. Where temporary relief follows inflation, one can hope that the hearing may be entirely restored by the electrolytic method. All tubes should be opened when there is reason to think that their closure is an etiological element in the deafness.

There is no danger of making false passages in the Eustachian tube, because very little pressure is used when the electric current is employed. It may be necessary to do the operation in two sittings. The first time the bougie may not pass, while the second time it will be found comparatively easy to pass it



on. The indication is to open the tube. A. B. Ducl (Med. News, Jan. 27, 1900).

### EUGALLOL.

Eugallol has been used in a number of cases of inveterate psoriasis at the Allerheiligen-Hospital of Berlin. The eugallol was dissolved in acetone (2 parts of eugallol and 1 part of acetone), the solution being painted daily for several days on the affected spots, followed in from fifteen to thirty minutes by the application of a zinc paste. The only drawback, so far as the face treatment is concerned, is the blackening of the spots; but this lasts only for a few days. The discoloration can be removed, too, to a certain extent, by means of ether. The following conclusions are based on the results obtained:—

1. Eugallol, used in the manner above described, exerts an extremely rapid and energetic action on psoriatic efflorescences in every stage.

2. In extended psoriatic eruptions, with numerous recent efflorescences, the remedy is not eligible, at least for use by the patient, because of the tediousness and difficulty of application. Individual efflorescences of the face and head may, nevertheless, be advantageously treated.

3. The eugallol-zinc treatment is excellently adapted for isolated inveterate *plaques* that are resistant to all other treatment.

4. Toxic effects are never observed, even after the most extended use; or, at least, are but very unimportant.

5. Eugallol causes, in some cases, slight local irritation, which, however, rapidly disappears on suspension.

The remedy, like all others, cannot prevent a recurrence of the psoriasis; hence an absolute cure cannot be expected. Hugo Goldschmidt (Dermat. Centralb., iii, No. 1).

### FIBROIDS OF THE UTERUS.

**Treatment.**—Taking St. Bartholomew's Hospital as a field of investigation, it is seen that fibroids occur in the post-mortem room at the rate of 0.01 per cent. of female out-patients, or 9.4 per cent. —i.e., 1 in 10,000—of necropsies, and that in only three cases did fibroids cause death apart from operation. The mortality from operation is 17 per cent. The mortality apart from operation is but 3 in over 2,000,000 (2,160,112), or 0.000,138 per cent. It seems undeniable that deaths from fibroids apart from operation are exceedingly rare.

The natural termination of all ovarian tumors of the usual kind is death. Speaking generally, therefore, they should all be removed. The natural course of fibroid tumors of the womb, on the contrary, is that, with rare exceptions, they do not cause death. Speaking generally, therefore, it is not necessary to life to remove them.

Whether it is desirable or not to remove them depends upon the merits of each case. For instance, bleeding is a symptom which may urgently call for relief by operation, though deaths from hæmorrhage are extremely rare. A perpetually recurring severe loss of blood may ruin a life even if it does not cause death, and may expose a patient to a greatly increased risk from many intercurrent diseases. Pain, again, though very difficult to estimate in another, may be a correct indication. In this matter objective signs of suffering, such as loss of sleep and affection of the pulse during the pain, are to be carefully observed and are of more value than graphic descriptions on the part of the patient. Pain may ruin a life, though it probably never causes death. Pressure symptoms, apart from pain, are often an urgent indication for operation. Dangerous press-

ure symptoms almost invariably affect the urinary tract and cause retention of urine. A comparatively small fibroid impacted in the pelvis and causing retention, if it cannot be pushed up into the abdomen, should be removed without delay. Rapid growth is often an urgent indication for operation, especially when accompanied by bleeding. Mere size may or may not be an indication for operation. A large subperitoneal fibroid well up into the abdomen usually produces no symptoms except weight. The absence of a rigid wall anteriorly preserves the organs, as a very general rule, from pressure. Under these circumstances the proper course is to explain the real situation to the patient and let her choose. A cystic fibroid will grow, and it should be treated as an ovarian tumor; that is, it should be removed. F. H. Champneys (*Lancet*, Jan. 20, 1900).

# FORMALIN, DISADVANTAGES OF.

The slough caused by formalin is very characteristic. It is tough and leathery, at first of a pearly whiteness, and on exposure to the air appears to oxidize into a firm, resistant surface of very nearly a black color. It is not cast off as other sloughs are, but will cling to the underlying surface indefinitely. A 2-per-cent. solution will cause a superficial slough, and a 1-per-cent. solution is quickly destructive of fresh granulation. No solution, however weak, ought to be applied to any surface which is expected to unite by primary union.

Stitch-hole abscess along lines of union ought never to be washed out by it, nor ought it to be applied to surfaces that are expected to heal by granulations. By its effect upon the capillary circulation, or by its effect upon terminal nerves, solutions that appear safe for all other

purposes have the power to arrest the repair process, and are therefore to be avoided in all cases in which one desires to promote this result. Subcutaneous fat appears to offer a very feeble resistance to the constricting effect of the solution. Ely Van de Warker (*Amer. Therap.*, Nov., '99).

# FRACTURES OF THE SKULL.

Visceral intracranial lesions are of more consequence in determining the necessity for a method of operative procedure in cases of fracture of the skull than are the extent and character of the fracture. The greatest source of danger in these injuries is a complicating wound communicating with the skull-contents through the cranial defect, and thereby producing grave danger of infection. The examination of the wound with a view of determining the exact location and extent of the fracture and the search for visceral injuries must be conducted with extreme care, to guard against wound infection. No digital or instrumental examination of the wound should be made until the necessary thorough aseptic preparations have been completed. In compound fractures the entire skull should be shaved and disinfected, and the wound flushed with hydrogen peroxide and 2 1/2-per-cent. carbolic acid. In basal fractures the ear and naso-pharynx should be disinfected so far as is possible. Absolute rest in bed is essential in treating skull fractures. The surgeon who converts a closed fracture of the skull into an open one without adequate cause assumes a great responsibility. Conservatism is to be recommended in the treatment of these fractures, especially in children. Trephining should be done (1) in case of subcutaneous fractures in adults with marked

depression; (2) subcutaneous fractures attended by focal symptoms; (3) all compound fractures, including punctured and gunshot fractures; and (4) fractures complicated by rupture of the middle meningeal artery. The trephine should never be used in the elevation of a depressed fracture, the chisel and mallet being greatly superior tools. Comminuted compound fractures demand free exposure to determine their extent and to discover foreign bodies, and every bone-fragment must be taken out and kept in warm  $2\frac{1}{2}$ -per-cent. carbolic acid while the wound is disinfected, and replaced in proper position in the skull defect preparatory to closure. In case of rupture of the middle meningeal artery and if the bleeding-point cannot be reached from the seat of fracture, the artery must be exposed and ligated in the temporal fossa. N. Senn (Cleveland Med. Soc.; Phila. Med. Jour., Jan. 27, 1900).

### HÆMORRHOIDS.

**Treatment.**—In hæmorrhoids a bland diet, especially sweet milk, is absolutely injurious on account of the lack of stimulation of the peristalsis. Great care should be paid to the toilet of the anal region after defecation, a solution of tannin or alun on a cotton wad being used. An ascending douche is of value. In giving enemata, a soft sound should be used, and all irritating substances like glycerin, salt, etc., should be avoided. Except in extreme cases, purgatives should not be given. To control hæmorrhage, which occurs even when the fæces are normal, a teaspoonful of fluid extract of hamamelis Virginia in a wineglassful of water three times a day for four weeks, then twice a day for a month, and then once a day for another month, is to be recommended. If the

hæmorrhage is severe, a powerful dose of opium should be given and the bleeding-spot tamponed with gauze. After it has been arrested for three days, a dose of castor-oil is to be taken. I. Boas and F. Karewsky (Therapie der Gegenwart, Nov., '99).

### MALIGNANT GROWTHS, INFECTIVITY OF.

The facts regarding the infectivity of malignant growths may be summarized as follows:—

1. Malignant growths may be regarded as local in origin, and as possessing the power of infection of adjacent and distant parts of the individual.

2. Inoculation may take place from one part to another of the same individual, apart from transference by the natural channels.

3. There is good evidence to show that one individual may be infected with growth from another.

4. There is experimental evidence to show that growths may be transferred from animal to animal of the same species by inoculation.

5. There are found in many malignant growths bodies which have a resemblance to micro-organisms, and which have been regarded as belonging either to the protozoa or the blastomycetes.

6. A new growth, having the structure and also the behavior of carcinoma, has been described as arising, at any rate in two instances, from inoculation with a form of blastomycetes.

7. These experiments are highly suggestive that the bodies found in cancer are the cause of the disease, though the evidence is wanting that definitely associates the two. G. Bellingham Smith and J. W. Washbourn (Edinburgh Med. Jour., Jan., 1900).



## MALPRACTICE FROM A MEDICAL STAND-POINT.

Malpractice from a medical stand-point means such practice on the part of the physician as does not conform to certain standards and which results in the injury of the patient. It may be either civil malpractice or criminal malpractice. Civil malpractice may be the result of ordinary ignorance or neglect; criminal malpractice is the result of intent or of gross ignorance or neglect. The minimum of knowledge, skill, and care allowed by law is the average knowledge, skill, and care employed by physicians generally, at the same time, and in the same and similar localities. For civil malpractice the physician must answer, in damages, to the patient. He will not be liable unless the plaintiff shows that he has been injured by the alleged malpractice, and after a *prima facie* case has been made out against him the defendant may show that the treatment which he adopted was proper or that the alleged injury did not result from it. If the injury complained of be due to the failure of the patient to follow the instructions of the physician, the latter will be relieved, in whole or in part, of liability. For criminal malpractice the responsible party is liable to the State for punishment by fine or imprisonment, or both, and good intent is no defense. If the physician be acquitted of a charge of criminal malpractice he may, in an action for malicious prosecution, recover damages from the responsible party if he can show that the charge was made without probable cause and through malice. If in a civil proceeding judgment be rendered in his favor, he will be relieved from liability for the court charges, but whether he can maintain an action for malicious prosecution is doubtful. W. C. Wood-

ward (Phila. Med. Jour., Jan. 20, 1900).

## MIGRAINE AS A NEUROSIS.

The most striking symptom of migraine is the aura. This is practically always present, although other features of the disease may be absent or may not be very prominent. The most important auræ are those in the visual sphere, usually bizarre light effects: bright muscæ volitantes, fortification figures, or showers of stars. More rarely other auræ are noted, as, for instance, peculiar odors entirely subjective in origin; at times subjective tastes. Then there are at times various paræsthesiæ that replace the visual aura. Defects of memory and paraphasia have been noted as preceding attacks of migraine. The disease does not always occur regularly,—that is, at regular intervals,—but may follow certain definite causes.

Attacks of migraine may be initial symptoms in such diseases as tabes, general paresis, and brain-tumor. When a first attack occurs late in life, suspicion should be aroused as to the existence of some organic lesion of the nerve-centres. This must be especially borne in mind if the patient is not of a nervous disposition and there is no special neurotic family history. C. W. Cutler (Med. News, Jan. 27, 1900).

## MOUTH, CARE OF, IN SICKNESS.

In illness where sordes and mucus accumulate rapidly, and where the tongue and lips are parched and stiff, attention is needed every hour; the mouth should be kept moist and the same treatment carried out through the night as during the day. Boric-acid solution, listerin, lemon-juice, glycerin, and distilled water, all are refreshing, and soften the tissues; where the lips are chapped or fissured

appear, a lubricant of cold cream or sterilized vaselin should be applied. Where the gums are spongy or soft and bleed readily, a few drops of tincture of myrrh added to pure water will help to harden them. Small squares of old linen or soft gauze should be used instead of a brush where one is ill or weak. These should be immediately burned after use.

Every part of the mouth should be cleansed: behind the wisdom teeth, the roof of the mouth, and under the tongue. Lemon-juice and water will remove the fur from a thickly-coated tongue. Where the teeth are sensitive, the water used should be slightly warm. L. E. Case (So. Cal. Pract., Jan., 1900).

### OTITIS MEDIA IN GRAVE DISEASES OF INFANCY.

Ponfick, with his associates, has observed carefully the condition of the ear in 100 autopsies of children under three years of age. These 100 autopsies he has divided under two heads: Non-infectious diseases, and those from infectious processes, and subdividing these into groups according to the disease. In most of these cases the actual condition, or rather the condition of the middle ear, preceding death was not suspected, and the cause of death is given by the attending physician who had charge of the case at the time of the child's death. In only a few of these cases is the history of the case during life obtained. Among the non-infectious group is found an heterogeneous collection, two of congenital heart disease, one of extensive burns, and three of non-infectious dermatitis. Of these only one was found free of otitis. This was a five-and-one-half-month-old infant with a congenital heart disease. Although this would appear to have the least possible connection with otitis, yet the only other case of congenital heart

disease in this group was a one-year-old child showing otitis media in both ears and both drums filled with pus.

In the face of these facts it seems one cannot conscientiously attend any grave disease in children without the most careful examination as to the condition of the ear. It is as much a duty to examine the drum-membrane as it is a duty to examine a rash upon the skin. E. H. Pomeroy (Boston Med. and Surg. Jour., Jan. 18, 1900).

### PHTHISIS.

**Diet.**—Proteid food is of value for the consumptive. Men who have a tendency to gout, and who take large quantities of meat, are less likely to suffer from consumption than poorer people who cannot afford an excessive meat diet. Experiment showed that if a certain number of dogs are infected with tubercle and then fed some on meat and some on farinaceous food, those fed on meat are less prone to develop tubercle than the others. P. Weber (Med. News, Jan. 27, 1900).

An average *régime* for a consumptive accustomed to the American way of living is as follows: As soon as the patient awakes in the morning, while yet in bed, a glass of hot milk, half milk and tea, or half coffee and milk, with a slice of milk-toast, should be given him. After a little while he will rise to prepare for his douche, friction, or massage, whatever the physician's prescription may call for. After this it will probably be nine o'clock, and the patient may take his ordinary breakfast. He should have eggs, and may have his choice as to the way they may be cooked—soft-boiled, poached, raw, etc., or in form of eggnog, with sherry or one or two teaspoonfuls of whisky. If he is accustomed to a meat breakfast, he should have broiled steak, chops, poultry, sweetbreads, etc., or raw

chopped beef. Bread a day old,—preferably whole-wheat bread or French rolls, but not hot,—with plenty of butter or honey, either milk, cocoa, coffee with milk,—but not too strong,—or a cup of bouillon should also form part of the meal. Whether the patient likes to have his mush (cereals) for breakfast or supper may be left to his choice; some fruit should always precede his eggs or meat in the morning. If fish is served in the morning, it should be either broiled, boiled, or baked.

The patient should take the heartiest meal between the hours of twelve and two o'clock (four hours after breakfast). Broths or soups should be the first course. Oysters and clams are most easily digested raw. Any kind of fresh fish may be served again at dinner, and in any form except fried; and there will be, of course, roast meat of some kind, rare roast beef, mutton, poultry, etc. Of vegetables, spinach is particularly to be recommended on account of the large proportion of digestible and assimilable iron. Next to this in nutritive power come lentils, pease, beans, cauliflower, and potatoes. Fresh vegetables should be given whenever it is possible to have them. Lettuce and other salads, preferably prepared with lemon-juice instead of with vinegar, are permitted. Light puddings, fruits, and nuts may constitute the dessert.

At about four or five o'clock some milk with toast may be taken, or, if the patient cares for it, he should have a cheese or meat sandwich. At this time the milk may be replaced by bouillon or chocolate.

The supper should not be quite so voluminous as the dinner; cold or warm meats, rice with milk or gruel, jellies, fruits, etc. At bed-time again a glass of milk or some milk-toast.

Neither milk nor cream agrees well

with some consumptives. To make the former more digestible, one may add to each wineglassful  $\frac{1}{2}$  or 1 teaspoonful of cognac, kirsch, or rum, with or without hot water. Milk may also be rendered more digestible by adding to each tumblerful about 6 grains of bicarbonate of sodium and 5 grains of common salt, dissolved in 2 tablespoonfuls of hot water. It should always be taken slowly and in small swallows. S. A. Knopf (Med. Rec., Jan. 27, 1900).

### PROSTATITIS, CHRONIC.

**Treatment.**—In using tubes for rectal douching in chronic prostatitis, in order to apply moist heat directly to the gland it is necessary to have concavity near the end of the instrument to fit over the convexity of the prostate, so that when the inflow is taking place the hot fluid as it comes out of the tube flows right against the gland which one is desirous of treating.

In regard to the fluids to use in giving these douches or irrigations: Hot saline solution is one of the best, and in some cases where perhaps it is not as efficacious as one would like to have it, especially in the acute cases, hot flaxseed-tea, strained, is very grateful to the patient.

Patients should take it just as hot as they can stand it. Certain men say that rectal douches for the relief of prostatitis and seminal vesiculitis ought not to be given at over a temperature of  $105^{\circ}$ , but often patients can stand it as high as  $120^{\circ}$ , and it appears to do more good the hotter it is. Ramón Guitéras (Jour. Cut. and Genito-Urin. Dis., Feb., 1900).

To reach deep-seated, chronic inflammations of the prostate such measures as will act directly upon the circulation of the organ may be instituted. One of these is massage of the prostate, accomplished by the finger introduced into the



rectum. But better than this is the application of moist heat to the region of the prostate by rectal irrigation. The rectum will tolerate a very high degree of temperature when employed in this manner, and sometimes by this means strikingly beneficial results are obtained in old chronic cases of prostatitis, which have long resisted the continued efforts directed toward the urethral surface of the gland. The hot-water rectal douche may be employed by means of a tube especially devised for this purpose: a modification of Tuttle's or Kemp's rectal tube. The hot water from a fountain-syringe passes into one arm of the tube and enters the rectum through very small apertures on its circumference near the distal end. A large opening at the extremity connects with an interior tube as large as the calibre of the outer one will allow. Through this the immediate return of the hot water from the rectum takes place, and thus a continuous circulation of moist heat around the prostate is kept up so long as the operation is continued, which is generally from ten to fifteen minutes. The end of the tube needs a little manipulation to insure a continuous outflow of the injected fluid. Instead of the sitting posture, the knee-chest position may be substituted, and often with better results. This operation should be conducted every night for an extended period, according to the effect produced. Improvement is often noted almost immediately. Most cases, however, are less brilliant, and it is sometimes necessary to urge the continued use of this rectal tube for a long period before permanent results are obtained; but when improvement has taken place under its use, permanent relief may be counted upon if the douche be used persistently. The general condition of the patient should receive attention, and any distur-

ances of nutrition should be properly treated. Iron, arsenic, and hypophosphites have their indications as tonics, and codliver-oil seems to possess especial value. When prostatitis is tubercular in character, it naturally does not do well under instillations, irrigations, or the rectal douche. Charles H. Chetwood (*Jour. Cut. and Genito-Urin. Dis.*, Feb., 1900).

### PUERPERAL INSANITY.

The important points of the relation of child-bearing to mental diseases may be summarized as follows:—

1. A specific form of mental disease, which might be called puerperal insanity, does not exist. The different psychoses which are observed during one of the stages of gestation are the same as those we see in other patients.

2. Pregnancy may be, under certain circumstances, one of the etiological factors of insanity. Its etiological importance, however, is proved by neither statistics nor clinical observation. It is, therefore, not permissible to terminate pregnancy on account of a psychosis, unless there are special indications for such intervention.

3. During parturition we sometimes meet a transitory disturbance of consciousness, the clinical features of which resemble psychical epilepsy.

4. Psychoses which occur in connection with the act of parturition are produced (a) by trauma in cases of difficult labor; (b) by anæmia and exhaustion after severe hæmorrhage; (c) by intoxication in septic cases or cases with local inflammation, or uræmia. The clinical symptom of this group of psychoses consists of an acute delirium, which either leads to recovery after a short time or passes into a secondary psychosis. All these cases may be produced by the same

causes in the non-pregnant state. The clinical features have nothing specific in any way.

5. Lactation, as such, plays no rôle at all in the production of insanity. It is due to other circumstances that during the first few months after delivery women on the average are more predisposed to nervous and mental diseases than under ordinary conditions. William Hirsch (*Med. Record*, Jan. 6, 1900).

### SEPSIS. ACUTE PUERPERAL.

The important points regarding acute puerperal sepsis may be noted as follows:—

1. Puerperal sepsis is wound fever or wound infection, and wound infection in the female genital canal, as elsewhere, calls for surgical measures, such as free drainage, irrigation, and the removal with a sharp instrument of any *débris* or exudate that may form on the surface of the wound. These means failing to accomplish the desired result, ablation of the diseased organ or organs as a last resort is indicated.

2. In a given case of puerperal sepsis a thorough search is to be made of the whole of the genital canal in order to determine the site of the original infection.

3. If this is situated in the uterus, curettage, drainage, and irrigations are to be employed. In 95 per cent. of the cases of puerperal sepsis nowadays met with this plan of procedure will be all that is necessary to bring about a cure.

4. In the remaining 5 per cent., roughly speaking, these measures will not be efficacious to arrest the progress of the infection, as will be evinced by the pulse, temperature, general course of the disease, and sometimes by local signs. An exploratory laparotomy is then indicated, the further course to be guided

by the pathological lesions found. In most of these cases total hysterectomy will be required.

5. When large collections of pus form and are so situated that they can be readily reached either with a vaginal incision or with one above either of Poupert's ligaments, no time should be lost in resorting to surgical relief. When, however, they are not so favorably situated, judicious delay is advisable, with the hope that ultimately the pus may be evacuated without the risk of soiling the general peritoneum.

Such a course not only averts the risks to which the patient would be exposed by a more radical procedure, but affords her an opportunity of being restored to health with the conservation of her sexual organs. Hiram N. Vineberg (*Amer. Jour. Med. Sci.*, Feb., 1900).

### SKIN. STERILIZATION OF, WITH SCHLEICH'S MARBLE-DUST SOAP.

Schleich lays down the emphatic rule that brushes should never be used, as they are incapable of cleansing, and become "labyrinths of filth and slime." Chemical antiseptics are in his method given an unimportant place. The properties required in a good soap are: 1. Sterilize materials. 2. Detergent properties; hence the use of marble-dust. 3. Some ammonia to act as a liquefying agent or flux, the soda or potash being too hard when saponified. 4. Fat-emulsifying power to carry away the waxy deposits of the skin. For this purpose he introduces what he calls "stearin paste." 5. Wax free in the mass to leave the skin anointed. For this purpose so-called "cerate paste" is put in the soap. 6. Sterile running water. The soap is a white paste of gritty feel. It is applied by rubbing with squares of sterilized gauze made into small napkins. The

sensation left after it has been washed away is that the skin has a waxy feeling. Personally it has been found to be less irritating to the skin than green soap used with a brush. Dr. Banga is confident from a considerable trial that it gives the best of results in all major and minor operations. E. Wyllys Andrews (Chicago Med. Soc.; Phila. Med. Jour., Jan. 27, 1900).

### SYPHILIS.

Every patient in whom the diagnosis of syphilis is made should, before the inauguration of antisyphilitic treatment by mercurials, be sent to his dentist, in order that any caries of the teeth be remedied and gingivitis treated. These precautions are necessary, and when properly carried out the dangers of hydrargyric stomatitis thus are greatly lessened.

It is necessary that the dentist and oral surgeon, to avoid being the carrier of the contagion, and for his own protection, should possess a knowledge of the characteristic appearance of the different syphilitic lesions met with on the mucous surfaces of the mouth and fauces, and personally supervise the disinfection of his instruments by repeated boiling and immersion in formalin or creolin solutions.

It might even be well to keep some instruments for use upon syphilitic cases only. William L. Baum (Jour. Amer. Med. Assoc., Jan. 27, 1900).

### THERMOMETER, CLINICAL, AS A GERM-CARRIER.

Clinical thermometers should always be rendered bacteriologically clean after each time they are used. A simple computation, based upon the accurate measurements of a camera drawing, shows that a degree mark is wide enough to accommodate 100 tubercle bacilli, march-

ing in single file, so to speak. Also that an area with the length and breadth of one of these marks would furnish room for the lodgement of 280,000 tubercle bacilli. When one considers that degree marks have depth, which cannot, however, be readily measured, it is seen that each of them is capable of harboring a much larger number than this. These figures are of practical value so far as they help physicians to realize the extreme minuteness of micro-organisms as compared with the indentations, visible and invisible, on the surface of the thermometers. It seems evident that ordinary washing and wiping cannot be relied on to dislodge bacilli from a surface covered with such indentations.

Believing that a clinical thermometer should at all times be sterile, personal thermometer has for some months been carried in an ordinary rubber case, which is filled with a 1 to 500 or 1 to 250 bichloride solution. All that has been necessary to prevent leakage of the solution is a piece of leather packing; but there is gradual shrinkage in amount, as each time the thermometer is withdrawn from the case a small portion of the solution adheres to it and it is necessary on this account to renew the solution once in three or four days. The thermometer should also be rinsed in a glass of water or under the faucet before and after using.

Bacteriological examination of six thermometers was made. Four had been washed, but not sterilized. Micro-organisms, of one or another variety, were found on each of the four. Two had been washed and then placed in a case containing bichloride solution. No micro-organisms were found on either.

If these experiments furnish conclusive proof that the thermometer may be a germ-carrier, if cleaned in the ordinary



way; and if they show, further, that by means of a very simple and inexpensive device it may be rendered sterile after each use, the importance of using, always and only, a thermometer which is bacteriologically clean should be urged. W. L. Conklin (Buffalo Med. Jour., Feb., 1900).

### TINNITUS AURIUM.

From a study of tinnitus aurium, the following conclusions are noted: 1. Almost all sounds should be designated by their pitch. 2. The pure conduction-sounds arise from the diminished outlet of sound, due to rigidity of the conducting apparatus. Inasmuch as the motility of the latter is required for hearing only low notes, its fixation is an obstacle to the outlet of these notes alone. Pure conduction-sounds are mainly placed between 16 and 256 vibrations. 3. The higher-pitched sounds are due to processes in the inner ear. They may be produced (a) by reflex from the external meatus, middle ear, and many different parts of the body; (b) by changes in the inner ear or the nerve itself. In rare cases, however, low sounds may, perhaps, also originate in the middle ear. 4. Hearing of complex sound—like melodies, etc.—is not *prima facie* evidence of a cerebral affection. R. Panse (Archives of Otol., vol. xxviii, Nos. 5-6).

### TYPHOID AND PNEUMONIA OF CHILDREN, HYDRIATIC MEASURES IN.

In using the bath treatment in typhoid of children, a tub should be placed upon two chairs near the bed, and filled (if possible, without the patient's full notice) with water at 90° F. The child's trunk is to be immersed for ten minutes, gentle friction with the flat hand or with a soft wash-cloth being practiced constantly; the head and face are to be

bathed with water at 60° F. twice. The child is then removed into a linen sheet, which is wrapped snugly around it, and covered with a thin blanket. The bath should be repeated every three hours, temperature being reduced three to five degrees each time, until 75° or 70° F. are reached, then it is to be continued at this temperature as long as the rectum registers over 103° F. As a rule, the child will fall into a gentle slumber, the respiration will become less hurried, the face calm, skin moist, temperature and pulse-rate diminished—in brief, all febrile manifestations will be ameliorated, without the discomforts and dangers incident to the usual routine drug treatment.

In the pneumonic fevers of children, the gradually reduced full bath is most often used, the child's entire trunk being placed in water at 96° F. and continuous friction being used over the body, while another person adds ice-water, so as not to touch the body, until the bath-water is reduced to 85° or 80° F.; duration, five to eight minutes. Such a bath should be followed by drying and friction. The difference in technique between the full bath described as useful in typhoid fever and this full bath should be noted. Both would be termed cold baths, when given to patients with temperatures ranging from 102° to 105° F. In the first, the water-temperature is reduced several degrees *before* each bath until 75° F. are reached. Drying is not recommended. The bath lasts from ten to fifteen minutes, because such a bath stimulates the nervous system, which is more or less indifferent to the disturbance involved in it. The full bath for pneumonia lasts five to eight minutes, is gradually reduced *during* the bath from 95° down to 80° F. each time. Drying is advised, because the pneumonia pa-

tient has been shown by experience to be less resisting to cold water, and, by reason of the pain, cough, and embarrassed respiration, he cannot bear so disturbing a measure as the colder bath, which is so useful in typhoid fever. Simon Baruch (*Pediatrics*, Jan. 1, 1900).

### UTERUS, MALPOSITIONS OF.

**Diagnosis.**—When it is considered that an overdistended rectum with an empty bladder can cause the fundus of the uterus to rest nearly upon the symphysis and that with a full bladder and an empty rectum the fundus may be quite close to the promontory of the sacrum, it is easily seen that the uterus, even when in itself normal, can occupy a variety of positions, and one should hesitate to diagnose a pathological position of the organ unless one is first convinced that it cannot regain its usual position when the bladder and rectum have been emptied. Under these conditions the mobility or non-mobility of the uterus on examination will often be of great assistance. Between the antero-position, which is looked upon as normal, and the retro-position, when the fundus approaches the angle of the sacrum, there is almost an infinite number of positions which need not be at all pathological. One can often find in cases which have been sent with a diagnosis of malposition that on examining them without emptying the bladder the fundus is quite close to the sacrum, and yet when the urine has been passed or drawn off the body of the uterus will be found to occupy a position of anteversion. The complete emptying of the bowel will often help in these cases. It should therefore be insisted upon that the wide range of the physiological mobility of the uterus should always be kept in mind, and that one should not be too ready to make a

diagnosis of malposition and proceed to treatment with topical applications and pessaries, until sure that the examination has been made with due regard to the various factors which tend to influence the mobility of the uterus. Hunter Robb (*Cleveland Jour. of Med.*, Jan., 1900).

### VACCINATION.

Vaccination performed by denudation with solutions of caustic potash is less likely to be successful than when performed by needle scarification. This fact is believed to be due to the formation of an eschar by the caustic potash which makes the surface denuded resemble parchment. This coagulation of the albuminous elements of the tissues closes the mouths of vessels and lymphatics, and renders the entrance of the vaccine organism and its absorption difficult. This action of caustic-potash solutions upon the skin was studied, at personal request, by Dr. Anna L. Williams, one of the bacteriologists of the New York City Health Department. After application of the caustic potash to the skin upon the abdomen of a calf, sections of the skin through the denuded area were cut out and examined microscopically.

A summary of Dr. Williams's report is as follows:—

1. Epidermis completely destroyed, as also some parts of true skin.
2. The lower parts of the hair-bulbs remain; also lower parts of sweat and sebaceous glands.
3. The remaining portion of the skin is covered with a layer of necrosed tissue, which takes a deep-blue stain, and its structure is indistinguishable. This layer is about as thick as the epidermis, and penetrates irregularly into the true skin.

**Conclusion:** There may be an obstacle to the entrance of the vaccine organism

either in the presence of the necrosed tissue or in the alkalinity of it.

To summarize the conclusions, the advantages of the caustic-potash denudation are: (1) it is less painful and less terrifying; (2) it does not draw blood.

The disadvantages are: 1. It takes more time. 2. It requires more skill. 3. It is difficult by this method to denude an area small enough; the vesicles are likely to be too large if the virus is very active. 4. It is less certain than scarification, no matter how skillfully done, because of the formation of an eschar which interferes with absorption. Frank S. Fielder (*Med. Record*, Jan. 27, 1900).

### VALVULAR HEART DISEASE.

The following are some of the results of personal clinical study in 186 cases of valvular heart disease. In 44 cases carefully examined with reference to the point at which the maximum intensity for aortic regurgitant murmur is best heard, the murmur was best heard to the left of the sternum in 36; best heard to the right of the sternum in 4 cases; in the centre of the sternum in 2 cases; while in 2 more there were two areas of equal intensity, one at the right and one at the left of the sternum; and over the sternum itself the murmur was very feeble. In this series, which is believed to be a typical one, the murmur was best heard to the right of the sternum in only 4 out of 44 cases, or less than one-tenth.

The study of the 186 cases of this series has given reason to deny that there is any one form of valve-lesion which is constantly associated with the clinical evidence either of hypertrophy or of the lack of hypertrophy of either ventricle. The classical text-book statements, that in pure mitral stenosis we have no hypertrophy of the left ventricle, that in mitral regurgitation evidence of a pre-

dominant or exclusive enlargement of the right ventricle can be made out, that in aortic regurgitation the left ventricle must be enlarged, all these seem contrary to the facts of observation. Several cases of well-marked aortic regurgitation have been personally seen without any evidence of hypertrophy of the left ventricle, and several of apparently pure mitral stenosis in which there was every reason to suppose that the left ventricle was enlarged, while in a majority of cases of mitral regurgitation such enlargement of the heart as could be demonstrated seemed to affect the left ventricle rather than the right. In connection with this, attention is called to the worthlessness of epigastric pulsation as evidence of hypertrophy of the right ventricle. It may be present when the heart is normal, both during life and at autopsy, and, on the other hand, convincing evidence of hypertrophy of the right ventricle without any epigastric pulsation has been noted. R. C. Cabot (*Boston Med. and Surg. Jour.*, Feb. 1, 1900).

### VIBRATORY MASSAGE IN CHRONIC DEAFNESS, CONTRA-INDICATIONS.

Vibratory massage is contra-indicated:—

1. In all the acute inflammatory conditions of the sound-conducting apparatus.

2. In all diseases of the sound-perceiving apparatus with normal sound-conduction. However, if rigidity of the ossicles exist it would be well to try the massage.

3. It would seem, from its mode of operation, that vibratory massage is of little benefit in middle-ear disease attended with retraction of the ossicles, simple chronic middle-ear catarrh, or when there is extensive atrophy of the membrane, or adhesions of the same.



Further experiments are necessary to determine its place in these cases. Two weeks of treatment in all cases is necessary to form a fair estimate of possible benefits. Ostmann (*Laryngoscope*, Jan., 1900).

### **X-RAY DIAGNOSIS OF EMPHYSEMA.**

In emphysema one sees in the fluoroscope that the lungs are unnaturally clear and that their volume is increased; the dilated right auricle and pulmonary artery are observed, and the whole enlarged heart is seen more clearly than normal, although by percussion its true outline cannot be determined; it is also seen to lie lower than in health, and in the later stages in a more vertical direction. The diaphragm is seen to be lower than normal, and the excursion which it performs between deep inspiration and expiration to be less than normal. In some cases the emphysematous condition may be greater on one side than on the other. The lower position and the more limited excursion of the diaphragm give a means of making a diagnosis of this condition earlier than has hitherto been possible, or in some cases the lack of these signs enables one to exclude it. F. H. Williams (*Phila. Med. Jour.*, Jan. 6, 1900).

### **X-RAY IN DIAGNOSIS OF PULMONARY DISEASES.**

A summary of the diagnostic signs revealed by the x-rays may be given as follows:—

1. Slight haziness indicates the beginning of tuberculous infiltration, and may or may not be accompanied by dullness.

2. Decided shadows indicate consolidation, the extent of which is in direct relation to the comparative density of the shadow thrown on the fluoroscope.

3. Circumscribed spots of bright reflex, surrounded by narrow, dark, shadow-rings or located in the midst of an area of dense shadow, indicate cavities.

4. Intense darkness, especially at the lower portion of the lung, indicates old pleuritic thickenings over consolidated lung-tissue.

5. Pleural effusions are shown in dark shadow, the upper level of which may be agitated by succussion.

6. There is no reason to doubt that the effusion of pericarditis would throw a like shadow which would be distinguishable from the heart-shadow above by its greater blackness.

7. Shadows thrown in the first and third stages of pneumonia probably resemble those of tuberculous infiltration. The shadow of the second stage of pneumonia is identical with that of tuberculous consolidation.

8. In emphysema and asthma the reflex is abnormally clear, and the movement of the diaphragm is restricted on the affected side.

A great deal depends upon the intensity and steadiness of light and the amount of muscular and adipose tissue intervening between it and the fluoroscope.

The most satisfactory work can be accomplished by the use of a static machine with 8 or 10 plates of 30 to 40 inches' diameter. J. Edward Stubbart (*Phila. Med. Jour.*, Jan. 6, 1900).

## **Books and Monographs Received.**

The editor begs to acknowledge, with thanks, the receipt of the following books and pamphlets:—

Annual Reports of the Department of Agriculture for the Fiscal Year Ended June 30, '99.  
—Adenocarcinoma of the Nose. Report of a Case. By James E. Newcomb. '99.—The

Suprarenal Bodies: Some Remarks upon their Physiology and Therapy, with Special Reference to Rhinology. By James E. Newcomb, New York, '99.—Nasal Insufficiency due to Exaggerated Prominence of the Anterior Arch of the Cervical Vertebrae. By James E. Newcomb, New York, '99.—Aseptic Catheterism. By Carl Beck, New York, 1900.—Beck's Operation for Hypospadias, '99.—A Consideration of the Various Forms of Non-malignant Ulceration of the Rectum. By Lewis H. Adler, Jr., Philadelphia, '99.—Some Practical Notes upon Diseases of the Rectum. By Lewis H. Adler, Jr., Philadelphia, '99.—A Clinical Study of 287 Cases of Hyperphoria. By William Campbell Posey, Philadelphia, '99.—Hereditary Optic-Nerve Atrophy: A Report of Three Cases, Representing Members of Three Successive Generations Affected by the Disease. By William Campbell Posey, Philadelphia, '98.—A Report of One Hundred Consecutive Cases of Cataract Extraction. By Samuel Theobald, Baltimore, Md., '99.—Dermatitis Exfoliativa Neonatorum. By Walter Spencer, Sydney, New South Wales, '99.—A Case of Atrophy of the Optic Nerves Following Hæmorrhage from the Stomach, With a Consideration of the Causes of Post-hæmorrhagic Blindness. Samuel Theobald, Baltimore, Md., '99.—Observations and Reflections on Abdominal Surgery. By A. C. Bernays, St. Louis, Mo., '99.—The Old New York Hospital. An Historical Sketch by D. B. St. John Roosa, New York, 1900.—Ricordi del VI Congresso Otológico Internazionale Tenuto in Londra, nell 'Agosto, '99.—Nouveau Traitement des Inflammations Chroniques Catarrhales du Pharynx en Rapport Particulièrement avec les Maladies de l'Oreille. Par le Prof. V. Grazzi, Florence, '99.—Le Délire de la Jalousie. Par le Dr. E. Villers, '99.—War in South Africa. The Case for the British, by the Rev. James Stewart, D.D. The Case for the Boers, by George W. Van Sielen, '99.—Experiment-Station Work, XIII. U. S. Department of Agriculture, '99.—Smooth Brome-Grass. U. S. Department of Agriculture, '99.—Horse-radish Culture in Bohemia. U. S. Department of Agriculture, '99.—Experiments with Forage Plants in Ontario. U. S. Department of Agriculture, '99.—Yams in the West Indies. U. S. Department of Agriculture, '99.—Bur, or Globe, Artichokes. U. S. Department of Agriculture, '99.—Report of the Editor for '99. By George William Hill, U. S. Department of Agriculture.—Report of the Forester for '99. By Gifford Pinchot, U. S. Department of Agriculture.—Dietary Studies of Negroes in Eastern Virginia in '97 and '98. By H. B. Frissell, D.D., and Isabel Bevier. U. S. Department of Agriculture, '99.—Distribution of the Agricultural Exports of the United States, '94-'98. By Frank H. Hitchcock, U. S. Department of Agriculture, '99.—Precautions Against the Plague. State Board of Health, Commonwealth of Pennsylvania.—Precautions Against Small-pox. State Board of Health, Commonwealth of Pennsylvania.—Precautions to be Adopted by Funeral Directors to Prevent the Spread of Contagious and Infectious Diseases, Including the Law Establishing a State Board of Undertakers. State Board of Health, Commonwealth of Pennsylvania.—Fifth Annual Meeting of the Associated Health Authorities of Pennsylvania, '98.—Laws for the Better Protection of Life and Health, passed by the Legislature of '97. State Board of Health, Commonwealth of Pennsylvania.—Transactions of the Clinical Society of London, vol. xxxii, '99. London: Longmans, Green & Co.—Obstipation: A Practical Monograph on the Disorders and Diseases of the Rectal Valve. By Thomas Charles Martin. Philadelphia: Medical Publishing Company, '99.—Lessons from Two Hundred and Twenty-four Consecutive Abdominal Sections. By J. H. Carstens, Detroit, Mich., '99.—Some Auxiliaries to Climatic Treatment of Phthisis. By J. Edward Stubbett, Liberty, N. Y., '99.—The Therapeutic Value of Oxygen. By W. L. Conklin, Rochester, N. Y., '99.—Tuberculosis. By J. A. McArthur, '99.—Some Remarks on the Symptoms of Bronchocele and the Results of Operative Treatment. By Francis J. Shepherd, Montreal, '99.—The Neuron Theory as Related to Brain and Nerve Diseases, in the Light of the Most Recent Investigations. By David I. Wolfstein, Cincinnati, O., '99.—Cases of Typhoid Cholecystitis Ending in Recovery. By J. M. Da Costa, Philadelphia, '99.—Anomalous Eruptions in Typhoid Fever. By J. M. Da Costa, Philadelphia, '99.—De l'Opotherapie. Par A. Flourens, Bordeaux, '99.—Thyroid Medication. By A. Flourens, Bordeaux, 1900.—Des Mastites Puerperales et de Leur Traitement. Par Georges Mendailles, Paris, '96.—Cate-Va Reflexiuni asupra Etiologiei Pelagrei. By Dr. S. Sufrin, de Tassy, '99.—The Present *Status* of Rice Culture in the United States. By S. A. Knapp, U. S. Department of Agriculture, Washington, D. C., '99.—Report of the Secretary of Agriculture, '99.

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### AMENORRHOEA.

Diagnosis.—Under the head of amenorrhœa C. J. Cullingworth<sup>1</sup> includes two varieties, namely: cases of delayed menstruation and cases in which menstruation, having been once established, has been arrested. The cases of amenorrhœa

in which an internal examination is called for are exceptional. Arrested menstruation is usually due either to some obvious disturbance of the general health or to pregnancy. In the former

<sup>1</sup> Brit. Med. Jour., Jan. 6, 1900.

class the disorder of the menstrual function is secondary to the disturbance of the general health. It is merely a symptom of that disturbance. Local examination in such cases is scarcely ever necessary. Where the amenorrhœa has begun suddenly in women or girls in apparently good health, menstruation having been normal and regular up to the time when it abruptly ceased, the medical attendant must always be alive to the possibility of pregnancy, whether the patient is married or unmarried. And if the question cannot be settled by abdominal examination a vaginal examination must be made in order to ascertain the size, consistence, and position of the uterus.

In regard to cases of delayed menstruation, a vaginal examination is to be avoided except when there is reason to suspect that the absence of menstruation is due to obstruction, caused by imperforate hymen or some other congenital malformation of the genital canal. It is of the utmost importance, therefore, to be aware of the symptoms that would justify such a suspicion. These symptoms are the occurrence, in a patient who has never menstruated, of periodical pains in and around the pelvis—the menstrual *colimina*, as they are called—and the presence of a swelling in the lower part of the abdomen. When one or both of these symptoms are present in a girl at or beyond the age of puberty, it is reasonable to suspect that the menstrual blood is retained within the body owing to some obstruction in the passages. In such a case a local examination is imperative. The obstruction may be caused by imperforate hymen, by atresia of the vagina, or by atresia of the cervix uteri.

#### **Amenorrhœa with Raynaud's Disease.**

—During the past ten years J. W. Byers<sup>2</sup>

has met with a series of cases which present certain well-defined clinical features. These prominent characteristics are: (1) diminished or arrested menstruation; (2) local symmetrical asphyxia of the extremities, especially the arms and hands,—a condition known as “Raynaud's phenomena”; and (3) pulmonary tuberculosis. The presence of any single one of these symptoms in patients is observed every day, but attention has not hitherto been called to the remarkable association of all of these clinical features in the same individual. This trilogy of symptoms did not always appear contemporaneously in any of the patients who were affected. In all of them when first seen the local asphyxia and the irregularity of menstruation were marked; in two of the patients pulmonary tuberculosis was also co-existent with the other clinical features mentioned, while in two other patients it developed at a subsequent period.

**Treatment.**—When amenorrhœa depends upon chlorosis H. Edwin Lewis<sup>3</sup> states that arsenic is valuable, but it ranks far below iron or even manganese. In order to be most efficacious, however, the iron should be in its most readily assimilable form. Gude's preparation of the peptonate of iron and manganese, known as *pepto-mangan*, is an admirable combination. It is readily taken into the human economy and appropriated to its needs, without deranging the weakest alimentary tract, or hindering in any way the normal processes of digestion, assimilation, and excretion. It should be given in water or milk in teaspoonful doses after meals, and its administration is invariably followed by the results desired.

<sup>2</sup> *Lancet*, Aug. 26, '99.

<sup>3</sup> *Vermont Med. Jour.*; *Dominion Med. Monthly*, Oct., '99.

But in order that the medical treatment of chlorosis may be most valuable and efficient, it should be augmented by auxiliary treatment, consisting of careful attention to diet and exercise. The food of an anæmic girl should be most nutritious and particularly abundant in albumin, while the exercise should aim to provide greater quantities of oxygen in the form of pure air, without lowering the vitality. Walking, skating, tennis, or bicycling in moderation are all able to supply the demand for exercise.

Treatment laid down on the above lines, followed out in every instance, with good habits of hygiene and a careful observance of Nature's demands, will regulate the various functions of the body, and the menstrual function will prove no exception to the rule.

C. J. Cullingworth<sup>4</sup> says that, as soon as it is discovered that menstrual blood is being retained owing to occlusion of the vaginal orifice, means should be adopted to set it free, and to insure against any reaccumulation. The surface of the occluding membrane and the parts around should be thoroughly disinfected, and then, with a sterilized knife, a free incision should be made in the middle line in the axis of the vulvar opening. If the contents of the distended vagina do not escape freely, the knife may be turned half-around so as to separate the edges of the incision; or a cruciform incision may be made.

In a certain number of cases the Fallopian tubes have been found closed at their abdominal ostia and distended with blood, and probably, owing to the sudden alteration in the relations of the parts caused by setting free the main accumulation, one of these distended tubes has occasionally burst during the operation and discharged its contents into the peritoneal cavity, with disastrous results.

The danger of rupture must be guarded against. It is best obviated by allowing the fluid to escape slowly. No measures must be adopted to hasten it beyond making a free opening. No pressure should be made on the abdomen. This precaution is taken partly to prevent a sudden and undue strain on the tubes if they happened to be distended, and partly to prevent, when the pressure is relaxed, an inrush of air into the vagina.

No irrigation of the vagina is personally practiced, which differs from many operators. It is considered best to let the remaining blood drain away naturally into absorbent pads bound tightly over the vulva by a T-bandage. There is no septic material in the cavity at the moment of evacuation, and one should be very careful of any manipulation which may be the means of introducing such material. There seems to be no indication for disinfecting the interior of a cavity known to be up to that moment aseptic. The one great aim should be to prevent the entrance into it of anything which can possibly contaminate it.

The after-treatment consists in keeping the patient for some days in bed, insisting on the recumbent posture except when eating meals (when it is good, for purposes of drainage, that the patient should assume the sitting position), changing the absorbent pads as frequently as the amount of discharge requires and discontinuing them as soon as it ceases, instructing the nurse gently to draw asunder the edges of the incision if the discharge should suddenly and prematurely cease to flow, and at the end of a week, or as soon as the colored discharge has entirely ceased, introducing a vaginal rest or dilator of glass or vulcanite, and securing it in

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<sup>4</sup> Brit. Med. Jour., Jan. 6, 1900.



position by a T-bandage, so as to allow the raw surfaces to heal without reuniting, and to prevent adhesion of the vaginal walls.

### ENTEROPTOSIS.

**Diagnosis.**—W. F. Hamilton<sup>5</sup> says it may be accepted as safe teaching, at least for the present, that (1) enteroptosis may exist without subjective symptoms; that (2) the enteroptosis of Glénard is associated with the most pronounced subjective signs, chiefly of a neurasthenic type; that (3) in those cases where a pendulous abdomen is present the nervous features are less pronounced than in thin subjects with flattened belly-walls; and that (4) enteroptosis arising from inflammatory processes in the abdomen may be typically characteristic (Treves). Any of the abdominal organs may be displaced in this disease. Most frequently, however, the colon and small intestines, the stomach, the right kidney, and the liver are found in altered relations.

The diagnosis is comparatively easy. The epigastrium is hollowed; the two lower quadrants of the abdomen, even with the patient in a reclining position, are often quite prominent. It is most important to determine the lesser curvature of the stomach and its relation to the greater curvature. Where the lesser curvature can be demonstrated, some degree of displacement exists. Palpation usually reveals movable kidney, and the liver, when displaced, is usually more prominent in the epigastrium and may be easily rotated on its long axis. In the diagnosis of this affection Glénard laid special stress on a test which is applied by the examiner standing behind the patient, also in the erect position, and laying both hands flatly over the lower zone of the abdomen. Then firm, but

gentle, pressure is made upward. In the great majority of cases this affords considerable relief to the distressing, dragging pain which is felt in the epigastrium and which is one of the patient's chief complaints.

Enteroptosis is thought by Stiller<sup>6</sup> to begin insidiously, generally in youth, occasionally in childhood, rarely in adult life. There is always a congenital, and probably inherited, predisposition, consisting in instability of the central and digestive nervous systems. The most pathognomonic sign is a looseness of the tenth rib, which "floats" as the eleventh and twelfth normally do, owing to a defect in its cartilage. The degree of looseness is generally proportional to the intensity of the enteroptosis and the symptoms accompanying it. In extreme cases the ninth rib may float also. The sign may be more marked on one side than the other. Its presence in a child indicates that it will suffer in after-life from enteroptosis and neurasthenic dyspepsia. Those who occasionally escape the fully developed disease suffer from a latent weakness of digestion, and are prostrated mentally and physically, and become greatly emaciated by apparently inadequate causes, such as slight gastric catarrh. The rib-sign reveals the true nature of these otherwise inexplicable cases. Enteroptosis and "nervous dyspepsia" are practically identical; in other words, enteroptosis and the rib-sign are present in nearly all cases of nervous dyspepsia.

**Treatment.**—To help true enteroptosis and prolapse of the pelvic organs A. K. Stone<sup>7</sup> says that the pressure must be so applied that it will be greatest immedi-

<sup>5</sup> Montreal Med. Jour., Sept., '99.

<sup>6</sup> Berl. klin. Woch., Aug. 21, '99.

<sup>7</sup> Boston Med. and Surg. Jour., May 11, '99.

ately above the pubes. Therefore the lowest and tightest part of the bandage must pass directly around the body at the pubes, which will make the bearing to be taken just above the trochanters and below the crests of the ilia, and will bring the buckle in the back at the end of the sacrum or the very beginning of the natal fold. The only thing that causes complaint, and is really very disagreeable, especially in hot weather, is the perineal band. However thoroughly and well explanations may have been given, it will be necessary to see the patient a number of times and see the bandage in working position in order to get an idea of the faults and the changes which are necessary to put the bandage in condition to do satisfactory work. The bandage should be treated with as much respect as the orthopædic surgeon bestows upon any of his pieces of apparatus, in order to obtain satisfactory results in the relief of enteroptosis.

W. F. Hamilton<sup>8</sup> gives the indications for the treatment of enteroptosis as originally recommended by Glénard, as follows:—

1. The intestines must be elevated and kept in their new position.
2. The abdominal pressure must be increased.
3. The bowels must be regulated.
4. The secretions of the intestinal glands must be increased.
5. The digestion and nutrition must be regulated and stimulated.
6. The whole organism must be strengthened.

These indications, in many instances, are met by the *body-binder* so applied as to exert upward pressure, and thus support the prolapsed organs, while it increases the intra-abdominal pressure. It may be made by ordinary gray cotton pinned firmly about the body.

Mild purgatives are needed. Massage of the abdomen often does good in stimulating the movements of the bowel and giving tone to the abdominal muscles. The same may be said of electrical (faradic) applications.

The use of alkalies and the choice of such a diet as is most nourishing and easily digested are of importance.

Recently both hot and cold baths have come into favor as giving general tone to the circulation, and Buxbaum recommends the cold sitz-bath as inducing favorable results, especially by reason of its action upon the intestinal circulation and secretion. He advises that they be taken daily for from two to five minutes.

The chief advance in the treatment of the condition since 1886 has been in surgery, by which some brilliant results have been brought about. Gastropexy and gastrorrhaphy have, in different cases, given good results; while in Stengel's case, operated on by Dr. Beyea, the gastro-hepatic omentum and gastrophrenic ligament were shortened by a tuck made with multiple sutures, thus bringing the stomach up toward its normal place.

## PRURITUS.

**Treatment.**—Willmott Evans<sup>9</sup> notes that pruritus may depend on causes situated in the skin itself, or may be an indication of disease of some internal organ. The first indication is obviously to treat the cause, and, in addition, great attention should be paid to the general health; the diet should be simple, but nutritious and easily digestible, and any article of food should be avoided which the patient finds to be associated with

<sup>8</sup> Montreal Med. Jour., Sept., '99.

<sup>9</sup> Treatment, Oct. 26, '99.

erroration of the irritation. The bowels must be kept open and saline aperients are the best to use for the purpose. It is essential that no external irritation from clothes or soap should be allowed to make the itching worse.

Among curative agents, bryes take the first place. The most efficient are those containing alkalis, and a quarter to half a pound of the carbonate or bicarbonate of sodium may be used in about 30 gallons of water. A starch-bath is very valuable, and 1 to 4 ounces of the salt may be dissolved in the 30 gallons of water. A linseed-bath is best made by boiling a pound or two of the meal in 2 or 3 quarts of water, and then pouring it, with or without filtration through muslin, into the 30 gallons of water in the bath. In severe cases the compound bath may be employed with much benefit, and the patient can take his meals and sleep in the bath; if necessary, this may be continued for several days, or even weeks.

In addition to, or in place of, baths, either lotions or ointments may be applied. Of all lotions, those containing carbolic acid are the most useful, and the best strength is 1 of the acid to 40 of water, or the sedative action of alkalis may be added, as in the following prescription:—

R Acid. carbolic. liquefact., 1 drachm.  
Liquor. potass.,  $\frac{1}{2}$  drachm.  
Aqua, ad 10 ounces.

M. Ft. lotio.

A useful ointment may be compounded as follows:—

R Acid. carbolic., 5 to 40 grains.  
Unguent. zinc., 4 drachms.  
Unguent. paraffin., 1 ounce.

M. Ft. unguentum.

Ichthyol is especially useful if the part is inflamed.

Perchloric acid is also reported to be powerful in cases of severe pruritus of the skin. It is also stated that the local pruritus may be cured by the use of the compound ointment composed of the acid and vasoline prepared from the combination of the acid. For pruritus of the skin, the use of the acid is also reported to be of service in the treatment of the skin. For pruritus of the skin, the use of the acid is also reported to be of service in the treatment of the skin.

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A good ointment for the skin is also reported to be of service in the treatment of the skin. For pruritus of the skin, the use of the acid is also reported to be of service in the treatment of the skin.

W. A. P. (Pruritus) is also reported to be of service in the treatment of the skin. For pruritus of the skin, the use of the acid is also reported to be of service in the treatment of the skin.

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J. P. T. (Pruritus) is also reported to be of service in the treatment of the skin. For pruritus of the skin, the use of the acid is also reported to be of service in the treatment of the skin.

Med. News, June 27, 1900.

Med. News, June 27, 1900.



be the cause, they should be performed, but one should be careful in prognosis as to permanent relief. Fissure, fistula, hæmorrhoids, condylomata, may all be due to the same disease which causes the pruritus, and they may be removed and yet the pruritus remain. As to the rheumatic and uricæmic cases, nitrogenous diet, alkaline diuretics, salicylic compounds, and hot baths compose the general routine of personal treatment. Locally some cases need stimulation, some need soothing. Hot water is generally acceptable, but sometimes cold is more so. A combination of carbolie acid, 10 to 20 per cent.; salicylic acid, 2 to 10 per cent.; boric acid, 5 per cent.; glycerin or cold cream, ad 100 per cent., is of value. Ichthyol may be used with great benefit and when there is pain at stool conium and cocaine render much service. Having determined the type and variety of the disease producing pruritus, it is not difficult to manage, and in most cases one may confidently expect a radical cure.

## STOMACH, DISEASES OF THE.

**Symptoms.**—While the causative agents of gastritis may be other than alcoholic, J. A. Hofheimer's<sup>13</sup> experience in public and private practice shows that by far the great majority of cases seen have been induced by overindulgence in spirituous liquors. Of between 300 and 400 cases of gastric disturbances, ranging from simple indigestion to the more malignant diseases noted, about 75 per cent. were traceable to overindulgence in alcoholic drinks; and the majority of these patients partook of some form of spirits before breakfast.

The symptoms in most of the cases were pain over the epigastrium on ingestion of food; a sense of fullness and nausea; distaste for food, but a craving

for liquids, great thirst being a prominent symptom. The usual history was that upon arising in the morning, after a somewhat restless night, the patient experienced a feeling of fatigue, and occasionally had an attack of vertigo. If unable to resist the desire, a drink of some stimulant was at once indulged in, to be followed later by another before breakfast. This meal, in the vast majority of cases, was very light—the patient had no appetite. Severe coughing fits attacked the patient—often before eating, but almost always afterward, causing him to vomit his meal and a mass of thick, ropy mucus, sometimes stained by the gastric secretions, but generally of an opaque, viscid appearance. If much retching occurred, blood was mixed with the mucus in striæ.

Fenton B. Turck<sup>14</sup> divides the symptoms accompanying motor insufficiency into those due to: (a) reflex irritation, (b) toxins, (c) disturbances of the circulation, and (d) malnutrition.

Reflex symptoms may be due to the presence of normal stomach-contents, such as food, water, mucus, and secretions acting as irritants, either mechanically, by reason of excessive bulk or weight, or chemically, as excess of hydrochloric or of organic acids produced by bacteria. Certain articles of food may also act as chemical irritants, as, for instance, organic acids, pepper, and spices of all kinds. Normal products of digestion, like albumoses and peptones, being toxic, may also be considered as chemical irritants. Gases in the stomach must be classed among the reflex irritants. The symptoms produced by the above-named irritants, and which may be classed as reflex symp-

<sup>13</sup> Med. Mirror, Jan., 1900.

<sup>14</sup> Phila. Med. Jour., Feb. 3, 1900.

toms, are sensations of pressure in the region of the xiphoid appendix, cardialgia, pain and distress over the entire breast, pain in the back, vomiting, burning sensation along the œsophagus and throat, headache, disturbed heart-action, and perversion of the appetite, such as hunger with a full stomach or anorexia with an empty stomach.

Toxins may be either of bacteriological origin or normal products of digestion: peptones or secondary albumoses.

Among symptoms due to toxins may be mentioned nervous disorders of all kinds, headache, vertigo, visual derangement, asthmatic attacks, tachycardia, dyspnoea, tetany, agoraphobia, etc.

The symptoms produced by disturbances of circulation are probably, as a rule, the result of a reflex irritation, or toxins.

Malnutrition is a condition of cellular starvation due, in part, to a deficiency in the amount of food brought to the cells, and in part to a deficiency of excretion from the cells. There are also, in all probability, cases of primary starvation, when the food is either insufficient in caloric value for the needs of the body, or when one constituent—protein, for instance—is not sufficient to replace what is lost by the destructive metabolism of the tissues. Any of these forms of malnutrition or starvation are attended by a number of very serious symptoms, which may be due to some form of autointoxication, in addition to the ordinary symptoms: wasting away of adipose and cellular tissue. The lack of sufficient water often produces complicated symptoms of malnutrition.

According to O. Rosenbach,<sup>15</sup> persons who are the subjects of dyspepsia from motor insufficiency of the urinary apparatus are usually men who are in the sixth decade of life. They have digest-

ive disturbances at intervals. Marked symptoms are: dislike for animal food, unpleasant taste in the mouth, heartburn, belching, unpleasant feeling at the angles of the jaw, and a feeling of stupidity. They are likely to tire readily. They often feel chilly at irregular times, especially in the evening, but they have no fever. They are often obliged to pass urine many times during the night, and may have frequent and incomplete defecation. Upon examination one will observe a readily palpable bladder, which is slightly irritable and pressure upon which causes some desire to micturate. Examination of the urine usually shows no albumin or abnormal elements excepting, frequently, excess of mucus and a few pus-cells. The patients are unable to retain the urine long, and the bladder distends with extreme rapidity.

In nervous dyspepsia B. C. Loveland<sup>16</sup> states that the symptoms commonly present are an unusual attention to the matter of digestion, a feeling of load or weight in the region of the stomach, eructation of gas, usually tasteless and often odorless. In the latter case the gas is only air which has been partially swallowed, and regurgitated in the effort to relieve the stomach of the feeling of weight. The patient also complains of slowness of digestion, and believes that one meal does not leave the stomach till the time for the next arrives. Besides the eructation of gas, there is often eructation or regurgitation of food (not vomiting), the regurgitation occurring almost immediately after meals, and the food-materials brought up being practically unchanged. The worst distress is generally complained of two or more

<sup>15</sup> Deut. med. Woch., Aug. 24, '99.

<sup>16</sup> Buffalo Med. Jour., Dec., '99.

hours after meals, and the patient also frequently says that as soon as he has begun to eat he feels full. Constipation, nervous and mental depression, and insomnia are sometimes but symptoms of nervous dyspepsia. Such patients often cut off one thing after another in diet, and reduce the quantity of food until they are much emaciated.

On physical examination such a patient will usually show a flabby skin, more or less sallow in color, a poorly-developed muscular system, flaccid abdominal walls, and, by percussion, or auscultatory percussion, a dilated and displaced stomach will often be noted, and not infrequently a displaced kidney and displaced intestines. If the case is one of long standing, much emaciation may, or may not, be present, depending on the degree to which the patient has restricted his diet. The appearance of the tongue is characteristic, but varied. It may be clean, red, with enlarged and congested papillæ on the tip; or a dull-purplish color, thick and flabby, and marked with indentations by the teeth; or, again, it may be "mapped," or coated white, with three or four spots of bright red, usually oval or circular in shape, situated on its anterior half. The contents of the stomach are usually found normal, though varying occasionally in the same person, even at different times. There are no pathological changes in the tissues of the stomach present in this disorder, and it is a purely functional disease.

**Diagnosis.**—J. W. Andrews<sup>17</sup> considers that it is as unscientific to try to diagnose stomach diseases without an analysis of the stomach contents as it is to try to diagnose renal diseases without a chemical and microscopical examination of the urine.

In obtaining the gastric contents with

a soft India-rubber stomach-tube a given time after a test-meal Vaughan Harley<sup>18</sup> says the tube should not be anointed with oil or vaselin, because this adds to the patient's discomfort; it should be moistened in warm water. The patient should sit in a chair. The tube is passed to the back of the pharynx and the patient is told to swallow: at the same time gentle pressure is made on the tube, which will pass down partly by gravity. If patients complain of asphyxia, they should be told to breathe deeply, and, if the feeling does not pass away at once or if any blueness is apparent, the tube should be removed. The tube should not be passed in cases of hæmatemesis or of suspected gastric ulcer. The tube should be allowed to remain a few minutes in the stomach before attempting to obtain the contents, so as to allow the patient to become accustomed to the sensation. The patient is then told to bear down or contract the abdomen, when the contents usually come up. The same results are obtained by deep breathing or coughing. In some cases where the contents are very thick with mucus none can be so obtained, and suction becomes necessary. Ewald's test-meal, which is the best, is taken an hour before the contents are removed. It consists of two cups of weak tea and two slices of dry toast. Under ordinary circumstances it gives thin, intimately-mixed "stomach-contents" without bad smell.

But investigation of the gastric chemistry is not sufficient. Deficient motor power of the stomach may cause dyspeptic symptoms by allowing the food to remain and undergo toxic fermentation. To test the motor power Leube's meal is

<sup>17</sup> Northwestern Lancet, Nov. 1, '99.

<sup>18</sup> Practitioner, Oct., '99.



the best. A fasting patient is given  $\frac{1}{4}$  pound of freshly-minced meat and a little bread; 4 to 7 hours later the stomach-contents are examined. Normally there is no residue 5 or 6 hours after this meal. In increased gastric irritability when the motor power is increased the stomach may be found empty between the third and fourth hour. In delayed motility without pyloric stenosis there is a residue after 7, 8, or even 16 hours.

A method of determining the digestive power of gastric juice, as well as the absorptive power of the stomach, has been studied by A. E. Austin,<sup>19</sup> who states that, in general, the less the percentage of albumose peptone present, the greater the absorptive power of the stomach; and, *vice versâ*, the greater the percentage, the less the absorptive power of the stomach. If this albumose peptone present is regarded as a measure of absorption, the digestive power of the gastric juice as a measure of its strength and activity, and the amount of gastric contents removed as a measure of motility, there are three factors which give a fairly-clear idea of the condition of the stomach.

One may have good absorption, good digestive power, and deficient motility, or poor absorption, fair digestive power, and deficient motility. These three factors once determined, in connection with the determination of the amount of rennin, make up an analysis which apparently affords about all that chemical examination offers in the analysis of the stomach-contents.

While chemistry can never completely supplant the means of physical examination presented, yet it must always form a powerful adjunct in the diagnosis of stomach disease.

C. D. Spivak's method<sup>20</sup> of autoin-

sufflation of the stomach is based upon the following physiological fact: When the stomach-tube is in place, it in no way interferes with respiration or vocalization. The patient is able to take a deep breath, sing a tune, blow a horn, and inflate a bag. In order that the patient may blow up his own stomach the following has been devised: A side-opening is bored in the tube at such a distance from the proximal end that when the tube is introduced into the stomach the opening should be situated in the anterior portion of the buccal cavity. Then the free end of the tube is clamped and the patient is told to shut his lips and teeth and blow up his cheeks. The air in the mouth, having no other exit, finds its way through the side-opening into the stomach. The patient is told to breathe through the nose, between the acts of blowing up the cheeks, and to keep the mouth shut until the end of the examination.

The conditions contra-indicating the use of the stomach-tube are given by F. Hampson Simpson<sup>21</sup> as follows:—

1. All gastric affections in which the diagnosis is possible without the use of the stomach-tube, and in which its therapeutic employment is not necessary.
2. Thoracic aneurism.
3. Recent hæmorrhage, whether this be from the stomach or any other organ.
4. Uncompensated cardiac disease.
5. Advanced age, cachexia, and extreme debility.
6. Pregnancy when a tendency to abortion exists.

J. M. Anders<sup>22</sup> notes that acute gastric catarrh is sometimes mistaken for

<sup>19</sup> Boston Med. and Surg. Jour., Mar. 8, 1900.

<sup>20</sup> Phila. Med. Jour., Feb. 3, 1900.

<sup>21</sup> Treatment, Feb. 8, 1900.

<sup>22</sup> Med. Bull., Jan., 1900.

typhoid fever, but the absence of prodromes, of the rose spots, the Widal reaction, and the peculiar temperature-curve eliminates that affection. In children it has been mistaken for tubercular meningitis; owing to the prominence of headache and vomiting; but the shorter duration in acute gastric catarrh and the history will eliminate meningitis. When attended with a rash in children it has been mistaken for scarlet fever, but is easily differentiated by the absence of angina, desquamation, and the peculiar tense, rapid pulse.

C. D. Aaron<sup>23</sup> regards chronic catarrh of the stomach as a frequent disease and very difficult to diagnose. Even if a diagnosis of chronic catarrh of the stomach is positively made by exclusion, there remains to be determined a special form of it, there being four kinds, viz.: simple, acid, mucous, and atrophic, which cannot be differentiated without a repeated microscopical and chemical examination of the stomach-contents after a test-breakfast. When masses of glairy mucus are found in the stomach-contents, catarrh is present; when mucus is absent, there is not likely to be any inflammation. Because of these, the ingesta are insufficiently digested and undergo fermentation and putrefaction. An analysis of the stomach-contents will determine whether the motility of the stomach is involved or not. This, along with subjective symptoms, gives valuable data. The lessened secretion of the hydrochloric acid is not typical of catarrh, but the presence of increased quantities of mucus as well as a reduction of the secretion of pepsin, and especially of rennet, indicates chronic catarrh. In simple chronic catarrh pepsin and rennet are decreased; free hydrochloric acid is decreased or absent; combined hydrochloric and ery-

throdextrin present. In chronic mucous catarrh pepsin and rennet are absent, while the pro-enzymes—pepsinogen and rennet-zymogen—are present; free hydrochloric acid is absent, also combined hydrochloric acid; very much thick glairy mucus is present. In chronic atrophic catarrh the ferments,—pepsin and rennet,—the pepsinogen, and rennet-zymogen are absent; free and combined hydrochloric acid also. Milk will not curdle in the stomach. In chronic acid catarrh pepsin and rennet are present in larger quantities than normal; hydrochloric acid is increased; large quantities of mucus are present.

Boardman Reed<sup>24</sup> says the differential diagnosis of the forms of hypersecretion must turn almost entirely upon the chemical and microscopical examinations of the stomach-contents. When an abnormally high percentage of hydrochloric acid is present during digestion only and, besides an absence of any considerable amount of mucus of gastric origin, there is an absence also of cell-elements coming from the gastric mucous membrane and showing proliferation, the case is one of hyperchlorhydria, probably without any gastric catarrh. When there are the same findings at all times of the day, in the morning fasting as well as at other times, and there is no dilatation or other organic disease, the trouble is most likely to be Reichmann's disease (continuous hypersecretion). When the symptoms and signs of hydrochloric-acid excess come on periodically and with violence, yielding to treatment in a day or in two or three days, and leaving the patient between-times either well or with only a moderate

<sup>23</sup> Jour. Amer. Med. Assoc., Feb. 17, 1900.

<sup>24</sup> Inter. Med. Mag., Dec., '99.

hyperchlorhydria, the trouble may be set down as gastroxynsis.

The diagnosis from gastric ulcer is not always easy. Indeed, it is rarely possible to exclude ulcer positively in any case of painful indigestion, especially with an excessive or normal percentage of hydrochloric acid. But in most cases of ulcer there are markedly-sensitive spots over the epigastric region. Then hæmorrhage from the stomach, shown either by the vomiting of altered blood or passing the same with the stools (coffee-ground vomit or stools), occurs in at least four-fifths of all cases of ulcer, and not in the uncomplicated forms of supersecretion. The pain is more severe and longer lasting usually in ulcer, and is aggravated, never relieved, by food.

H. W. Lincoln<sup>25</sup> assumes anything above 60 cubic centimetres of gastric juice containing no food-particles and expressed from a fasting stomach the first thing in the morning as gastrosuccorrhœa. The acute variety comes suddenly, the patient usually being in perfect health, with pain, epigastric and dorsal; tenderness over gastric region; vertigo; headache, etc. Vomiting soon supervenes, bringing temporary relief, only to be repeated at longer or shorter intervals. Severe retching frequently takes place after the stomach is empty. Notwithstanding the fact that the onset is frequently upon a full stomach, introduction of food is said to bear no relation to the production of an attack.

The amount ejected is large, and, according to Ewald, highly acid in chronic, but not so in acute, periodical cases. Anorexia is concomitant. Thirst sometimes is very pronounced. Draughts of water relieve the distress, but ultimately increase nausea. The vomitus may be tinged with bile. In both periodical and chronic it contains plenty of pepsin and

rennet. The bowels are constipated. Stiller claims that the floating tenth rib is a common symptom.

These attacks go as suddenly and quickly as they come, and leave the patient in a state of general well-being.

Objectively, one finds the abdomen sunken, the general appearance of the patient pale, body and extremities cold, and the picture, as a whole, one of severe illness. After an attack the individual may remain well for periods alternating between weeks and years; yet the tendency is for recurrence at each time, to be followed by a shorter interval. Diagnosis of the periodical variety is not difficult.

As symptoms of chronic gastrosuccorrhœa are noted pain, occurring some time after meals or shortly before eating, and severe pyrosis and gastralgia. Vomiting infrequent at first, later, several times daily—when during the night it contains no food, which proves motility to be intact. Appetite fair or increased. Thirst here also intense. Emaciation present, though not progressive.

Ingestion of albuminous material gives relief. Diagnosis is based upon: 1. Repeated examinations of gastric contents (as in achylia) the first thing in the morning, the stomach having been thoroughly lavaged the previous evening, and no food having been permitted in the meantime. 2. Exclusion of ulcer, stenosis, atony of stomach-muscles; absence of foul breath, coated tongue, anorexia, etc., serve to differentiate from chronic gastric catarrh. Chemical examination yields no food-particles or fermentation-products, high acidity, retarded starch-digestion, sometimes presence of bile and mucus. In ulcer any history of hæmatemesis or melæna is of

<sup>25</sup> Phila. Med. Jour., Feb. 3, 1900.



great value. In case of atony and stenosis food-particles and fermentation-products are found.

From a study of acute dilation of the stomach H. W. Bettmann<sup>26</sup> says that the following statements may be postulated:

1. During the course of or convalescence from some acute or chronic disease the stomach may undergo rapid dilation.

2. This condition is marked clinically by a sudden and violent onset; vomiting is violent and intractable; large quantities of fluid are ejected; the fluid is usually greenish, due to admixture of bile. The patient is reduced to a state of collapse or exhaustion, which may prove fatal in a few days.

3. During the progress of the disease the abdomen becomes distended, the right hypochondrium remaining flattened. The bowels move spontaneously, and a splash may be elicited over the site of the distension. The mind usually becomes clouded.

4. If treatment is unsuccessful, the distension of the abdomen increases, vomiting ceases, and the patient dies of exhaustion.

5. The indications for treatment are, first, supportive measures; and, second, the use of the stomach-tube one or more times as early in the case as possible. Rectal feeding should be resorted to, and nothing should be allowed "by the mouth" until the vomiting has been nearly or quite controlled.

6. Treatment without lavage is unavailing, and the use of narcotics worse than useless.

From a study of dilatation of the stomach Musser and Steele<sup>27</sup> reach the following conclusions: 1. The symptoms upon which most reliance can be placed in determining the presence of gastric motor insufficiency are: (a) the pres-

ence of fluid and food in the stomach fasting over night, (b) the ready entrance of fluid through the tube and difficulty in the return-flow, (c) the absence of visible gastric peristalsis, (d) evidences of fermentation and intoxication by the products thereof, (e) thirst, and (f) scanty and concentrated urine.

2. In determining the position and size of the stomach by far the most certain method has been inflation by air through the stomach-tube; auscultatory percussion, Dehio's method, and determining the capacity of the stomach by the amount of water required to produce a sense of fullness, while signs of value may lead to error.

3. It may be inferred from the somewhat small number of cases personally noted that the condition is not uncommon in students. An analysis of the etiological factors is as follows: (a) myasthenia caused by chronic gastritis from the abuse of alcohol and tobacco [4 cases]; (b) myasthenia from deficient innervation [2 cases]; (c) myasthenia of probable congenital origin [1 case]; (d) myasthenia occurring in the course of acute disease [1 case].

**Etiology.**—An editorial<sup>28</sup> states that, despite the fact that many competent physicians have testified that functional gastric disease is often directly due to eye-strain, general physicians too frequently fail to bear this in mind. In every oculist's office patients appear almost every day who for years or for a life have suffered from disorders of nutrition and who in all ways and by many physicians have been treated without the influence of disordered ocular function's having been suspected or sug-

<sup>26</sup> Phila. Med. Jour., Feb. 3, 1900.

<sup>27</sup> Amer. Jour. Med. Sci., Feb., 1900.

<sup>28</sup> Phila. Med. Jour., Feb. 3, 1900.

gested. And yet nothing in therapeutics is more certain and more decisively demonstrated than that sick headache, anorexia, anæmia, dyspepsia, and malnutrition of many types may be due to astigmatism and anisometropia. If a patient relieved of these distressing ailments by the oculist is supplied with wrong glasses by the blunder of an optician; if glasses are exchanged by mistake; if they are maladjusted or bent out of shape; if the refraction changes and the glasses are not changed; if a jeweler replaces a loosened lens wrong side up—then the stomach and organs of assimilation strike work, and nausea and denutrition of some kind follow. If a well person attempts to wear the glasses worn with comfort by another, vomiting may speedily take place.

**Treatment.**—According to J. A. Hofheimer,<sup>29</sup> the indications for treatment of alcoholic gastritis are to clean out the gastro-intestinal tract, removing all undigested *débris*, and to strengthen the stomach. If an alkali be added to the water used in the lavage, quantities of mucus will be washed out. Should there be an objection to the use of the stomach-tube,  $\frac{1}{2}$  pint of hot water, in which  $\frac{1}{2}$  drachm of sodium bicarbonate has been dissolved, may be given ten minutes before each meal. A dose of calomel and ipecac, followed by a saline aperient, will be efficacious. Bismuth salts are also effective, the subnitrate, salicylate, or betanaphthol combinations being preferred.

For the gastralgia it is rarely necessary to use opiates; phenalgin may give relief. Small doses of Fowler's solution, well diluted, will generally arrest the nausea and vomiting.

The dietary outlined should consist of bland foods.

For the poor appetite the bitter veg-

etable tonics are of service, and the combination known as the "four tinctures" is very good. Its formula is:—

R Tr. nuc. vom.,  
Tr. capsici, of each, 1 drachm.  
Tr. cinch.,  
Tr. gentian., of each, 1 ounce.

M. Teaspoonful in water before meals.

Patients should abstain from any spirituous beverage when the stomach is empty.

F. W. Froehling<sup>30</sup> states that there are a number of diseases of the stomach which diminish its secretions, and in such cases one is justified in administering hydrochloric acid in proper form, but in such cases only. Take, for example, two patients, one having a lack, and the other a supersecretion, of hydrochloric acid; they will usually complain of the same disagreeable feelings. Both have the same amount of gas in the stomach after meals. Both are constipated and suffer more or less from "heart-burn." The stomach of the first is sour from fermentation and production of organic acids, the other from the supersecretion of hydrochloric acid, produced by the stomach itself. Each one, therefore, will state that he has a sour stomach. The only safe method is to examine the gastric juice obtained from the stomach by means of the stomach-tube. For this purpose the patient should eat a test-meal (Ewald's, Riegel's, or other) and after a certain time, according to the nature of the meal, should have it removed from the stomach. If, upon examination of the contents so removed and examined, it is found that there is a lack of hydrochloric acid, one

<sup>29</sup> Med. Mirror, Jan., 1900.

<sup>30</sup> Kansas City Med. Index-Lancet, Feb., 1900.

is obliged to supply it. The most satisfactory way of administering it personally found is to follow Riegel's advice, who decides how to administer the acid in each individual case. As a general rule, a dose of 15 drops is first used, and by means of the stomach-tube it is noted how this dose acts, the examination being repeated several times if necessary. As all of these patients require thorough washing out of the stomach, this observation can easily be made without materially inconveniencing them before the washing takes place. By this means one can ascertain positively how much hydrochloric acid different patients require. As a rule, it has been found necessary to give from 10 to 20 drops at one-hour intervals after each meal until 30 to 60 drops are taken.

The diluted muriatic acid is always used. It should be taken in about a quarter of a glass of water, through a glass tube, thus protecting the teeth.

Everyone who has made qualitative examinations for pepsin has experienced that, even if he finds a great lack of hydrochloric acid, there is often either no alteration in the quantity of pepsin or, if so (as its digestive power is great), enough for proper digestion is nearly always produced. Only in case of entire atrophy of the mucous membrane of the stomach, and consequently its glands, is a real deficiency to be found.

If one absolutely insists on giving pepsin, it can be done logically only in such cases, but even then it would have no beneficial result.

Pepsin can only change albumin into peptone when there is free muriatic acid. Now, in cases where there is a deficiency of pepsin there is also certainly a deficiency of muriatic acid.

According to the position of most observers concerning the use of acid, one

will never be able to produce a free, unbound acid in such a stomach by giving it through the mouth. Therefore, pepsin, given *per os*, cannot act at all. It will either be absorbed by the stomach or, which is more likely, carried into the intestines. Guided by these facts, all the great stomach specialists have discarded the use of pepsin entirely, or nearly so. They only expect a suggestive result by giving it to intelligent patients who have heard of pepsin and its digestive powers, and look for a good result.

Perhaps a number of physicians will reply that they have often seen good results follow the use of pepsin, but they may rest assured that, as pepsin is nearly always given in connection with muriatic acid, it is the latter which does the work. Or the good effects are the result of nothing more than autosuggestion.

In dyspepsia from motor insufficiency of the urinary apparatus O. Rosenbach<sup>31</sup> says the treatment should be largely-marked reduction of the fluids and exclusion of everything from the diet that is likely to irritate the kidneys. Patients should be given warm baths and should be in bed as much as possible; massage of the abdomen, particularly of the region about the bladder, should be employed. Faradization is also of value, and the application of an ice-bag together with the use of strychnine or nuxvomica. Catheterization should be practiced if there is paradoxical ischuria.

According to M. P. Smithwick,<sup>32</sup> one must frequently treat patients suffering from hyperchlorhydria as neurasthenics. On the whole, proteid diet is most suitable, especially in bad cases. Raw eggs between meals are very helpful in certain cases. Medicinal treatment has

<sup>31</sup> Deut. med. Woch., Aug. 24, '99.

<sup>32</sup> Boston Med. and Surg. Jour., Jan. 4, 1900.



been found discouraging as regards cure. Of local remedies, alkalies, bismuth, and nitrate of silver may be tried; and of remedies intended to act through the nervous system, *nux vomica* and bromide.

In using nitrate of silver one must remember the possibility of argyria, and omit occasionally.

Hewes<sup>33</sup> is convinced that nitrate of silver has considerable use in the treatment of hyperchlorhydria. After determining the existence of hyperchlorhydria by chemical analysis he treats the case as much as possible by diet; that is, the patients are started on a proteid diet and an effort is made to offset the symptoms purely by the use of the diet. If the patient comes back after a week or ten days with the symptoms unmitigated, alkalies are used in addition to the proteid diet. When that fails, nitrate of silver is used. One-third of a grain of the nitrate of silver is used once and sometimes twice a day, and may be kept up a month and, if necessary, two months.

In hyperchlorhydria Graham Chambers<sup>34</sup> gives a large dose of bismuth subnitrate every morning, taka-diastase and extract of belladonna before each meal, and a teaspoonful of baking-soda an hour after each meal. The diet should consist of milk, bread, toast, butter, soft parts of oysters, chicken, mashed peas, and avoidance of salt, coarse vegetables, fruits, acids, spices, beef-teas, and coarse meats.

Boardman Reed<sup>35</sup> regards intragastric electrical treatment as at least as simple as lavage, producing even less strain upon a weak or nervous patient; and for persons accustomed to the tube, unless in a case of gastric ulcer, as by no means so dangerous in its possible consequences, when wrongly used, as are

drugs recklessly and unskillfully prescribed. Besides finding it helpful in certain cases of gastralgia and in some cases of obscure gastric pain of unknown origin, using there the positive pole of the galvanic current with a strength of 5 to 10 milliampères, the ordinary faradic current has been found decidedly beneficial and sometimes rapidly curative in all cases of muscular atony or atonic dilation. The slowly-interrupted current of any faradic coil with a strength just sufficient to produce contractions in the stomach, and the currents obtainable from the familiar faradic batteries in general use having coils of short coarse wire and not of a very high power, not only improve the motility and gradually contract the stomach, when it is enlarged, but also, as a rule, stimulates the gastric glands and increases the percentage of hydrochloric acid in those cases in which the latter is below the normal.

In a large number of cases of hydrochloric-acid excess, the high-tension current, directly applied, has proved the most effective of the remedies employed.

The technique of this method of administering electricity is as follows: The patients, after a light, early breakfast, come for this treatment not earlier than 11 A.M., and those with very sensitive stomachs and poor motility preferably at 12 or later. One or two glasses of water, according to the capacity of the stomach, are then taken, and a large, flat electrode well wetted is applied over the epigastrium. Then, the battery being ready, the patient, while sitting on the side of a lounge or couch, swallows the intragastric electrode and afterward

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<sup>33</sup> Boston Med. and Surg. Jour., Jan. 4, 1900.

<sup>34</sup> Dominion Med. Monthly, Nov., '99.

<sup>35</sup> Phila. Med. Jour., Feb. 3, 1900.

lies down. The current is turned on gently at first and the strength gradually increased to that which the patient can comfortably bear, which is a very much stronger one with a high-tension coil than with an ordinary faradic battery. Five minutes of such a current every other day is enough. More has sometimes produced harmful depression with loss of appetite, and after 12 or 15 such treatments, if the desired result has not been sooner accomplished, it is best to intermit them for a week or two. But the slowly-interrupted ordinary faradic current of moderate strength can often be applied advantageously for 5 or 8 minutes every other day for much longer periods in cases of acidity or markedly lowered secretion of the gastric juice, with or without catarrh. However, in all cases in which electricity is applied within the stomach, especially in those in which there is hydrochloric-acid excess for which a high-tension current is being used, there should be a quantitative test of the stomach-contents about every week, or, at the longest, every two weeks, to prevent the risk of injurious overaction.

In the treatment of acute periodical gastrosuccorrhœa H. W. Lincoln<sup>36</sup> advises rest of the stomach for about twenty-four hours, then, beginning with light diet, one may gradually return to ordinary eatables suitable to the general individual conditions, always bearing in mind the state of the gastric secretion. The cause should be removed if possible. For pain and distress, bromides are to be given, but, if these are not sufficient, morphine with atropine may be used. To remove the overacid condition, if present, alkalies and silver nitrate in intragastric spray, pill, or solution should be used. Lavage, properly performed, acts well. Constipation should be met by

either enemas or Carlsbad salts, given in hot water morning and night.

In chronic gastrosuccorrhœa the cause should be removed as far as possible, and open-air exercise, horseback-riding, bicycling, walking, etc., ordered. The patient is to refrain from acids and highly-seasoned dishes. All exercise is to be limited to the strength of the individual. Liquids should not be taken in large quantities. In cases with weak, flabby muscular development, together with massage, electricity, etc., a well-fitted abdominal binder gives great satisfaction. Silver nitrate may be given by intragastric spray, pill, or solution. Bicarbonate of soda, ammonium, magnesium phosphate, belladonna, or bismuth subcarbonate in large doses (1 to 2 drachms) in a glass of water left in the stomach ten to twenty minutes, and then washed out, is of advantage. Intragastric galvanism does good; as also does tannic acid,  $\frac{1}{2}$ -per-cent. solution.

Loveland<sup>37</sup> believes that the rational treatment in nervous dyspepsia is to find the causes operative in each individual case and remove them if possible. Few things that are wholesome for anyone to eat need be absolutely cut off if the patient is willing to obey orders thoroughly, but at first it will not be best to give him too much liberty in choosing his variety. He may, however, be urged to eat as freely as his system may require, irrespective of his appetite; but when crowding the stomach in this manner a very simple diet must be used. A special diet-list must be made for each individual. It may be said, however, that sugar, sweets, pastries, fried dishes, and all but the plainest soups should be avoided, but can again be given if the

<sup>36</sup> Phila. Med. Jour., Feb. 3, 1900.

<sup>37</sup> Buffalo Med. Jour., Dec., '99.

patient can be induced to make a radical change in his habits, like taking him from the office or professor's study and putting him into active work on a ranch, or its equivalent in such out-door exercise as horseback-riding, walking, or cycling, three or four hours a day. It is important to prescribe exercise that will be congenial to the patient, and for this reason the physician needs to know the advantages and disadvantages of the available out-door sports, for this class of patients often need to be convinced of the utility of such sport as well as the pleasurable quality of it. Where such a radical change in the habits and associations is impossible, calisthenics, especially adapted to strengthen the muscles of the trunk and abdomen, hold an important place. Individual conditions will call for alterations, but a sample of such exercises is as follows: Flexion and extension of the arms and legs while standing; rising from a sitting posture (squatting down and rising up); bending forward and backward; bending sideways, first one side and then the other; lying on the back and elevating first one limb and then the other; and, finally, respiratory movements, deep and forcible. These last may often be taken best while lying on the back, as follows: Hands down at sides, or clasped in front; as inhaling begins slowly raise hands, continuing until when the lungs are filled the hands touch the floor or couch on which the patient lies, as far as he can reach above or beyond his head. Return to former position while slowly exhaling. It is well to prescribe only about three such movements of a kind at the beginning, increasing as the strength increases, possibly adding one each day.

Faradic electricity is also of great value. If constipation exists, which can-

not be overcome by the diet, exercise and electricity, phosphate of soda, 15 grains, taken in a glass of hot water before each meal, will usually be found sufficient aid until the muscular activity of the alimentary tract has been restored. Nuxvomica, in some form, is the remedy applicable to most cases.

Boardman Reed<sup>38</sup> thinks that if nervous dyspepsia has been correctly diagnosed, it is well to begin with some modification of the Weir-Mitchell rest treatment, especially when the patient is a woman. Rest in bed and seclusion, with full, regulated feeding, massage, and electricity for four to eight weeks, followed by gradually-increased exercise in some healthy climate out-of-doors, will of itself go far toward curing many cases. But when, instead of true nervous dyspepsia, the case is one of neurasthenia complicated with or resulting from gastric catarrh, and especially if there be a considerable dilatation of the stomach, the rest-cure sometimes even aggravates. Men need to be given a long vacation from business and kept out in the open air. A hunting or camping trip of several weeks or a long sea-voyage often accomplishes wonders. Afterward there should be such a complete reform of the patient's mode of life as to insure more hours for recreation and sleep and a less strain upon the nervous system. Depressing or injurious habits of all kinds must be abandoned. Spending regularly an hour or two daily out-of-doors during the remainder of life, on horseback, or walking or driving (or on a wheel, provided care be used not to overexert), will usually complete the cure and render it permanent.

While very indigestible dishes are better avoided, there is need of full nutri-

<sup>38</sup> Inter. Med. Mag., Jan., 1900.



tious feeding. Both central galvanization and general faradization are helpful, and static electricity sometimes accomplishes still more. Abdominal, or, better yet, full general, massage nearly always effects good results. If there is hyperchlorhydria or acid gastric catarrh, instead, as in a large proportion of the cases so classed, abdominal massage vigorously given will do harm decidedly. In the cases associated with a spastic condition of the intestinal musculature resulting in constipation and painful collections of gas confined in knuckles of the bowels, the massage over that region needs to be very gentle and soothing, without any percussion, slapping, hacking, or other exciting procedures.

The drug treatment should be much the same as that for neurasthenia generally — nerve-tonics and tissue-builders mainly, such as iron, arsenic, gold, the hypophosphites, and especially the glycerophosphates. A preparation of bone-marrow and nucleo-albumins personally used with success in these cases during the past two years is sold under the name of "hemaboloids." Next in usefulness has been a combination of sodium glycerophosphates with strychnine.

When the gastric juice is deficient, good results are obtained from administering hydrochloric acid and some active preparation of pepsin, but for some cases one of the preparations of papain may be still more effective. Constipation should be overcome if possible by massage, electricity, and gymnastics. In the cases in which there is a decided tendency to excessive secretion of hydrochloric acid, calcined magnesia or sodium sulphate usually suits better than the bitter tonic laxatives.

In dilatation of the stomach<sup>30</sup> J. A. Lichty condemns all forms of corsets and corset-waists. Clothing is not to

be suspended from the hips. Union undersuits are recommended, and a waist so constructed that when skirts are buttoned to it the weight falls on the shoulders, and not on the hips. To accomplish this there are three essentials: (a) the material for the waist must be so cut that the pull of the skirts is in the direction of the weave of the goods; (b) exact fit, allowing for respiration; (c) buttons for skirts must be high enough to prevent pulling below the line of smallest circumference of patient's waist.

As regards dietetic treatment, two glasses of milk, with two raw eggs, at 8 A.M., 1 P.M., and 6 P.M., and two glasses of milk at 11 A.M., 4 P.M., and 9 P.M., are advocated. After these meals the patient is to lie flat on the back or on the right side for thirty minutes. When the normal weight is regained, a solid meal is permitted at 1 P.M., consisting of mutton-chop and zwiebach, with about 4 ounces of water. For the 4 o'clock feeding are substituted about 12 ounces of water. Gradual return to solid food is made. It is best to intermit the feedings of milk and raw eggs for twelve hours every ten days. During this time water is given in equal proportions in lieu of the milk. Foods causing fermentation must be avoided, and among these are potatoes, rice, and white bread. Raw fruits and excess of sweets and fats must also be excluded.

Abdominal massage is of value, as are exercises to develop the abdominal muscles, electricity, alternate hot and cold packs, or douches applied to the abdomen. Percutaneous electrical stimulation is considered equally efficacious with the intragastric electrode.

Tincture of *nux vomica* (or strychnine) is useful in atonic dilatation.

<sup>30</sup> Med. Press, vol. lxxvii, No. 2134, '99.

When there is diminished hydrochloric acid, small, often-repeated doses of the acid are beneficial following the meals of solid food. Where hyperchlorhydria exists, sodium bicarbonate, calcined magnesias, and bismuth subnitrate are to be given. If constipation persists, glycerin suppositories should be used.

According to Randolph Winslow,<sup>40</sup> dilation of the stomach is usually due to some organic disease which eventuates in a stenosis of the pyloric orifice; but there are some cases of dilation of this viscus in which pyloric obstruction plays no part, and it is to this class that gastroplication is applicable, after the failure of simpler measures. This operation has been performed too seldom to allow us to draw any very accurate conclusions in regard to its usefulness and limitations, but in those cases of dilation due to atony, without organic stenosis, it certainly enables the stomach to perform its functions more satisfactorily.

A new gastric douche has been constructed by Max Einhorn.<sup>41</sup> Its principle is based upon a valve-arrangement. The apparatus consists of a rubber tube, not too flexible (thickness, three-eighths of an inch; length, twenty-six inches) at the end of which a hard-rubber capsule is attached. The latter contains numerous very small openings all around, and one very large opening at its lower extremity. Within the capsule, which can be screwed apart, lies a small aluminium ball. This moves easily and freely within the capsule, and when it lies above the lower opening it entirely occludes the same. Two cross-bars in the capsule prevent the entrance of the small ball into the tube. If the tube described is attached to an irrigator provided with a waste-pipe the apparatus

is complete. If the waste-pipe is closed and the water made to run through the douche, the liquid will press the ball downward, thus closing up the large opening. The water will then come out through the small side openings like a very fine shower, sprinkling over quite a large area. The inflowing tube being closed, and the waste-pipe opened while the capsule is inserted into the liquid, the latter will push the ball upward, and thus the large opening will be free, and the water will easily return through it.

In using the apparatus the douche-end is dipped into warm water, and then inserted into the stomach. It is necessary to pay attention that the capsule lies immediately below the cardia, and is not situated deeply in the stomach. The length of tubing from the mouth should be sixteen and one-half to seventeen inches. The tube is now attached to the irrigator, the outflowing pipe closed, the inflowing one opened, and the stomach sprinkled with about a quart of water. In order to make the water return from the stomach, the tube is inserted a little farther into the stomach, about four to six inches, the outflowing pipe opened, and the inflowing one closed. The liquid from within the stomach now returns. This procedure may be repeated three or four times. The temperature of the water should be regulated according to the therapeutic indications. The douche may also be connected with two irrigators, one containing cold and the other warm water; the stomach may thus be sprinkled alternately with cold and warm water.

<sup>40</sup> Phila. Med. Jour., Feb. 3, 1900.

<sup>41</sup> Med. Record, Dec. 2, '99.

## Cyclopædia of Current Literature.

### BRAN-BATHS IN CHRONIC ECZEMA AND INTERTRIGO.

In chronic eczema one can often best allay the itching by the use of bran-baths, one being taken each night. The water in which bran has been boiled can be poured into a long bath, and hot water can be added until a temperature of 95° to 98° has been reached, or if the patient has not such a bath a washing basin filled with the bran-water can be used. Such a bath or sponging adds enormously to the comfort of patients, and by diminishing the tendency to scratch indirectly helps to a cure.

It will be found wise, also, in cases of intertrigo—say, in the folds of the groin of fat people or babies, or under the pendulous breasts of fat women—to sponge with this bran-water, care being taken in every case not to undo the good of the washing by resorting to friction for drying purposes. When the water has partly disappeared by evaporation, or has very gently in part been removed by soft linen, a little starch mixed with 10 per cent. of boric acid can be dredged on to the surface. The discharge is usually profuse in these cases, and the powder will absorb it. Where they can be tolerated it is well to place thin, muslin-bags, containing starch with boric acid or powdered talc with 1 or 2 per cent. of camphor, between, and separating the affected parts. R. M. Simon (Birmingham Med. Rev., Feb., 1900).

### CANCER DYSCRASIA AND CACHEXIA.

Cancer dyscrasia often precedes the development of cancer. It has often erroneously been thought to be a consequence of its initial steps. It would seem, however, that the system gets into a condition in which the development of

cancer is favored by the lowered nutrition of the patient. The condition cannot be described as accurately as can the tuberculous dyscrasia, but it undoubtedly exists. Cancer dyscrasia and cachexia must not be confounded. The cachexia develops as a consequence of the drain upon the system by the growth of the tumor and by the absorption from it of certain toxic substances that disturb systemic metabolism. The injection of cancer-juice into animals always produces serious results; fever develops, salivation occurs, and collapse closes the scene. There is undoubtedly great toxicity in cancer-serum. Coma has been known to develop in a number of cases in which there was rapid softening of the cancer with absorption from the tumor of a considerable amount of cancerous elements. This coma is not unlike the similar condition which develops as the result of diabetes mellitus. Klemperer has reported the discovery in the blood of cancer patients of oxybutyric acid, which is thought also to be the important element in the production of diabetic coma. Roswell Park (Med. News, Mar. 3, 1900).

### CYSTOID AND BULGING SCARS MET WITH AFTER OPERATIONS ON THE EYE.

The pathological examination of eyes upon which operations have been performed has shown that there are three conditions, presenting somewhat different clinical appearances, which result from entanglements of folds of iris in a scar. More than one of these conditions may be present in the course of the same cicatrix. First, there is the typical translucent cystoid cicatrix, the condition which is essential for its formation being the protrusion of a fold of iris



through the whole thickness of the sclero-corneal tissue, so that there is nothing but conjunctiva external to its most prominent part. A tendency to increase of tension after healing of the wound favors its development, for, when the tension is increased, the gap, which is a weak spot in the walls of the globe, more quickly stretches, the iris lining it consequently becoming more rapidly atrophied and permeable by the aqueous humor. (After a cystoid cicatrix is once established the tension is often found slightly minus, due to the ready escape of the aqueous humor through it into the subconjunctival tissue.) The smaller the fold of iris entangled, provided it is sufficient to line completely both edges of the sclero-corneal wound, the more readily will the cystoid condition develop. Thus the condition is often met with after iridectomy.

The second condition which results from the incarceration of a fold of iris is what would be termed clinically a bulging scar. In it the fold does not extend throughout the whole thickness of the sclero-corneal tissue, so that from before backward there is conjunctiva, reunited anterior layers of sclero-corneal tissue, entangled iris, and then a gap in the posterior layers of the sclero-corneal tissue. Such a spot in the walls of the eyeball would also be a weak one, and, as the result of increase of tension, or even sometimes as the result of normal tension, liable to give and bulge. But, owing to the presence of the reunited anterior layers of sclero-corneal tissue, it does not allow of the filtration of aqueous humor through it, and has not the translucent appearance of a cystoid scar.

The third condition is what might be spoken of as a staphylomatous scar. It is met with when the whole length of the iris from its ciliary to its pupillary

margin has become prolapsed as a fold into a wound at the sclero-corneal margin, so that its entire thickness is kept from reuniting. Before the whole iris becomes sufficiently atrophied to be permeable by the aqueous humor it is capable of considerable distension. Hence in this condition a large, thin-walled, grayish prominence of considerable dimensions forms in the region of the scar. This is the form of cicatrix which frequently resulted from the operation of sclerotomy as performed by the late Mr. Bader, who, after completing his incision, encouraged the iris to prolapse. E. Treacher Collins (*Lancet*, Feb. 24, 1900).

#### DIARRHŒA, TANNALBIN IN.

In infectious diseases no remedy has been personally found to give greater satisfaction in bowel complications than tannalbin.

In several cases of typhoid fever, characterized by excessive discharges, tannalbin controlled the action of the bowels without producing any evidence of the irritation so frequently attending the administration of vegetable astringents; the attending tympanitis was at the same time favorably modified. In the diarrhœa of phthisis tannalbin was used in two cases, in both of which the result was all that could be hoped for from any medication. The dose was 15 grains every three hours, or from two to three times a day, as indicated.

In view of personal clinical experience, tannalbin seems to be as near a specific in selected cases of diarrhœa as quinine is for malaria or mercury or the iodides for syphilis. J. T. Moore (*Merck's Archives*, Feb., 1900).

#### DIAZO-REACTION OF EHRlich.

It is the experience of every trained observer in a long series of diazo-tests

with a great variety of diseases that countless varieties of colors and tints have been obtained in the rings and the foams. By the inexperienced many of these would have been called diazo-tests. These colors are yellow, brown, orange, and salmon, and mixtures of the same. At times even the characteristic red ring is obtained, but, on shaking, the essential characteristic pink foam is absent.

The Ehrlich diazo-reaction, like so many of the useful clinical tests,—the tests for indican, bile, sugar, hydrochloric acid, lactic acid,—is a color-reaction, and depends upon the production of dyes by the chemical union of suitable organic substances with a diazo-compound.

In carrying out this test the reagent is prepared according to the formulæ recommended by Ehrlich. Two solutions, which are termed, respectively, Solutions I and II, are required:—

Solution I:— *Reagent.*  
 Sulphanilic acid..... 1.  
 Hydrochloric acid ..... 50.  
 Distilled water.....ad 1000.

Solution II:—  
 Sodium nitrite ..... 0.5  
 Distilled water.....ad 100.

To 50 parts of Solution I add 1 part of Solution II and shake. To a few cubic centimetres of this mixture, and an equal quantity of urine, add a quantity of ammonia equal to about one-eighth of the combined volume of the mixed urine and solution, letting it run down the side of the test-tube.

At the point of contact of the ammonia and the mixture colored rings of various tints form, ranging from light yellow, through dark yellow, orange, and brown, to eosin or garnet, depending upon the urine. The formation of a red

zone is an indispensable part of the true Ehrlich diazo-reaction. It is also essential that, on shaking, the foam takes on a pink color. This color varies considerably in its intensity, depending upon the strength of the reaction, from the palest rose to the deepest pink, but must not be any other color, such as salmon, orange, etc.

A third part of the reaction which Ehrlich considered important consists in the separation of a greenish-black or violet-black precipitate, which forms a layer on the surface of the light-colored sediment when the tube has been allowed to stand for twenty-four hours.

The solutions should be kept in dark bottles. If the mixture of Solutions I and II is not used immediately, it should be placed in a dark bottle and kept as cool as possible. In summer it can be used for one or two days, and in winter three to five days. The urine likewise should be fresh as possible.

In deciding upon the clinical value of the Ehrlich diazo one can fairly discard the work of all investigators who have not performed the test in accordance with the directions laid down by Ehrlich, or who have not considered the pink foam as the important factor in the test. The statistics presented by numerous investigators who have performed the test correctly are overwhelmingly convincing as to the value of this reaction in the diagnosis and prognosis of typhoid fever, and the prognosis of disease such as pneumonia, diphtheria, septicæmia, and especially tuberculosis. James R. Arneill (*Amer. Jour. Med. Sci.*, Mar., 1900).

#### DISLOCATION OF THE SHOULDER AND HIP, AN EASY METHOD OF REDUCING.

During the last three months the following method of reducing anterior dis-

locations of the shoulder has been employed exclusively at the Hudson Street Hospital, and has proved effectual and easy.

The principle is that of steady moderate traction upon the arm in abduction, and the procedure is as follows:—

A round hole about six inches in diameter is made in the middle of the canvas of a cot, about 18 inches from one end. The patient is placed upon the cot with the injured arm hanging down through the hole. The cot is raised upon blocks so that it will be at a sufficient height from the floor, and a ten-pound sand-bag is made fast to the wrist of the dependent arm. After a wait of a few minutes, reduction is found to have taken place. None of the patients has complained that the procedure is painful. It is an effectual, easy, expeditious, and apparently safe method. Possibly, lacking a cot, two tables might be used, placed end to end, the head resting on one, the body on the other, with the arm hanging down between. But the lack of snug support of the shoulder might induce a muscular effort, which would defeat or at least delay success.

In dorsal dislocations of the hip the method is applied as follows: The patient is placed prone upon a table in such a way that his thighs extend beyond its end. The uninjured thigh is held horizontal by an assistant, to prevent tilting of the pelvis, and the injured one is allowed to hang vertically, while the surgeon, grasping the ankle, holds the leg horizontal (right-angle flexion at the knee) and gently moves it from side to side. If relaxation of the muscles is slow to appear, a sand-bag—five to ten pounds—is placed on the leg close behind the knee, or pressure is made there with the hand. This has succeeded in more than four-fifths of the cases in

which it has been employed, and often without the aid of anæsthesia. In the two cases in which it failed, reduction was accomplished by traction in a line midway between right-angle flexion and full extension. They were probably dislocations “above the tendon,” so called. Lewis A. Stimson (*Med. Record*, Mar. 3, 1900).

### ENTERITIS, INFANTILE.

**Treatment.**—Beer-yeast is personally employed for infants with gastro-enteritis. After submitting the patient to aperients and water diet the intestinal canal is thoroughly washed out. A teaspoonful of dry yeast, or a dessertspoonful of fresh yeast, is dissolved in tepid water, previously boiled, and thrown up the rectum by an ordinary ball-enema syringe. The nates must be held together for a few minutes to prevent ejection of the enema. The yeast is administered twice or three times daily; the intestinal tract must always be washed out first, and the patient kept on water diet. When the fever has subsided, solid diet may be allowed; the yeast enemata should be continued as long as the diarrhœa persists. Thiercelin and Chevrey (*Gaz. des Hôp.*, Jan. 9, 1900).

### EPISTAXIS FROM THE ETHMOIDAL VEINS.

Spontaneous epistaxis usually originates from the lower and anterior part of the cartilaginous septum. Hæmorrhages from this source, however, are rarely so profuse as to be dangerous, and they give trouble rather on account of their recurrence. In another variety of bleeding from the nose—viz.: that observed in certain constitutional diseases, as in hæmophilia and purpura—the blood escapes from numerous points of



the mucous membrane. In a third class may be placed the hæmorrhages coming from neither of the sources mentioned. The site of the bleeding in these cases, owing to the fast-flowing stream, as a rule, remains undiscovered; this has been traced, however, to the inferior turbinate, to veins in the posterior part of the nose by Schmidt, and to an artery on the floor anteriorly by Rosenberg. Several cases of epistaxis have come under personal notice in which the blood descended from the upper and anterior part of the nasal cavity. The anatomical relations of the vessels in this situation lead to the belief that they are not infrequently the source of severe hæmorrhage. The position of the anterior ethmoidal veins does not explain the tendency to bleed. Although the naso-palatine is larger and follows a longer and more exposed course over the septum, bleeding evidently takes place from it very rarely. Natier, however, reports a case of hæmorrhage from the naso-palatine artery. A feature, however, that distinguishes the anterior ethmoidal veins from the other veins of the nose is their close connection with the intracranial circulation. Herein probably lies the explanation of the profuse and prolonged epistaxis in several cases personally seen. The ethmoidal veins anastomose with the veins of the dura mater and with the superior longitudinal sinus. Another and more important vein, which has been specially described by Zuckerkandl, accompanies a branch of the anterior ethmoidal artery, passes through the cribriform plate into the cranial cavity, and either opens into the venous plexus of the olfactory tract or is directly connected with a larger vein at the orbital lobe. The chief trunk of this vein has also been seen opening into the superior longitudinal sinus. The fact

that these veins can be injected from the longitudinal sinus proves the absence of valvular obstruction to a backward flow. This condition and the pressure in the sinus, which has been shown by Hill to follow closely the general circulatory pressures, would allow of abundant hæmorrhage from the proximal end of a ruptured ethmoidal vein.

Epistaxis from the region of the anterior ethmoidal vessels is easily checked by firmly packing between the septum and the anterior half of the middle turbinate a strip of gauze reaching to the roof of the nose or as near to it as possible. The parts below may be left free so that nasal respiration is unimpeded. This is a great advantage over the method of plugging anteriorly, or anteriorly and posteriorly. After the packing has been changed twice or thrice at intervals of a day, or, if it can be introduced without becoming saturated with blood, at intervals of two days, the tendency to bleed will usually have ceased and the treatment may be suspended. A. Brown Kelly (*Lancet*, Feb. 24, 1900).

#### HÆMORRHAGE, GASTRO-INTESTINAL.

The following conclusions are based on 60 cases of fatal gastro-intestinal hæmorrhage due to cirrhosis of the liver:—

1. Fatal gastro-intestinal hæmorrhage is an infrequent, but not rare, complication of cirrhosis of the liver.

2. In the great majority of the cases the cirrhosis is atrophic; but it may be hypertrophic.

3. In one-third of the cases the first hæmorrhage is fatal; in the other two-thirds the hæmorrhages continue at intervals over a period varying from a few months to several years, the maximum given being eleven years.

4. In one-third of the cases the diagnosis can be made at or before the time of the first hæmorrhage. In the other cases the diagnosis cannot be made at all or only after months or years, during which time other symptoms of cirrhosis have developed.

5. Oesophageal varices are present in 80 per cent. of the cases, and in more than one-half of this 80 per cent. the varices show macroscopical ruptures, and it is probable that many other ruptures would be found if the varices were tested by injection of air or fluid.

6. Fatal hæmorrhages occur in cases which show no oesophageal varices, and they are probably due to the simultaneous rupture of many capillaries of the gastro-intestinal mucous membrane.

7. The hæmorrhages in this class of cases are usually preceded by other symptoms of cirrhosis, but the first symptom may be a fatal hæmorrhage.

8. In 6 per cent. only of the cases which showed oesophageal varices was the cirrhosis typical—*i.e.*, showed ascites, enlarged spleen, and subcutaneous abdominal varices. R. B. Preble (Amer. Jour. Med. Sci., Mar., 1900).

#### HEART, THE RELATIVE INTENSITY OF THE SECOND SOUNDS AT THE BASE OF.

The following conclusions are reached after an investigation of 100 cases: 1. Accentuation of the pulmonic second sound is almost invariable in young children and frequent in youth. 2. After the fortieth year of life the reverse is the case, and it is then rare to find a pulmonic second sound as loud as the corresponding aortic sound. 3. Between the ages of twenty and thirty years there is no marked accentuation of either sound. 4. In view of the above facts, it is obvious that, when one speaks of an

accented pulmonic second sound as corroborative of a diagnosis of heart disease, such accentuation must mean an increase in the loudness of the sound over that normally to be expected at the age of the patient in question. A comparison with the aortic second is not sufficient to settle the question. 5. Further, when we speak of an aortic second sound as accented, we must mean (in case of patients over forty years) more accented than it normally is. Once more, the simple comparison with the pulmonic second sound will not settle the question. The comparison must be with an ideal standard carried in the mind. 6. In interpreting the meaning of an accentuation of the pulmonic second in suspected mitral stenosis, one must bear in mind the age of the patient. The presence of a pathological accentuation of the sound can be determined only in relation to the degree of accentuation which is to be expected at the age of the patient in question. Sarah Robinson Creighton (Med. Record, Jan. 13, 1900).

#### HERNIA, STRANGULATED.

**Symptoms.**—The prominent symptoms of strangulated hernia are: pain, tenderness, vomiting, obstipation, tympanites, local changes, disturbance of the pulse, disturbance of temperature, facial expression, mental condition, and derangement of the capillary circulation.

Pain is usually the first symptom to be noticed. It comes on suddenly, at first radiating from the umbilicus and finally becoming a general abdominal pain. It is colicky in character and severe in degree. There is also local pain about the hernia itself. Tenderness accompanies the pain and is of a corresponding character.

Sudden cessation of local pain and

tenderness without reduction of the hernia indicate the occurrence of gangrene.

Vomiting is usually an early and persistent symptom. At first the vomit consists of the contents of the stomach, later of gastric mucus and bile, and finally of the contents of the small intestine; then it has the characteristic appearance and odor of stercoraceous vomit.

Obstipation will be present from the first to last, though there may be a faecal movement from the lower bowel. Aside from this there will be no passage of faeces or gas.

Tympanites will increase till relief is obtained.

The local symptoms, besides those peculiar to hernia, will be those of inflammation, viz.: swelling, heat, redness, pain, and tenderness. To these will be added loss of impulse on coughing, and gradual loss of tympanitic resonance.

The pulse-rate is increased and becomes irregular, small, and thready. As exhaustion takes place the pulse will show evidence of final heart-failure.

The temperature is often subnormal from shock. When systemic infection has taken place the temperature will be elevated; and finally it will again become subnormal from exhaustion and collapse.

The facial expression is indicative of severe injury or shock. It has the pinched, drawn, anxious, ashen look known as the Hippocratic face.

The mental condition is that found accompanying any severe abdominal injury. The patient exhibits a queer combination of fear and of braggadocio, both evincing anxiety about himself and boasting that he feels perfectly well. This often seems like an ill-defined form of delirium. The capillary circulation is always disturbed, as is evinced by pallor

and by the slight cyanosis of the extremities.

Shock is always present to a greater or less degree, and this alone stamps the case as different from one of functional constipation or intestinal derangement, and should lead to a proper diagnosis. It is evidenced by the characteristic pulse, facial expression, pallor, and prostration, with the peculiar mental condition described above. Parker Syms (*Jour. Amer. Med. Assoc.*, Feb. 10, 1900).

### MEASLES, KOPLIK'S SPOTS IN DIAGNOSIS OF.

As a result of an extensive experience in measles, it is believed that the presence of Koplik's spots is absolutely pathognomonic of measles, just as much so as the existence of the malarial plasmodium in the blood is indicative of malaria. Before the appearance of the eruption great care is necessary in looking for these spots, because they occur from five days to a few hours before the cutaneous manifestations. There is a time, sooner or later in every case of measles, in which these spots are present. Many cases which have been diagnosed as measles without Koplik's spots are believed to have been nothing more than cases of German measles. This is particularly true of the severe form of German measles. German measles is a disease separate and distinct from true measles, and this fact is emphasized by the absence of Koplik's spots. In this affection there is a disproportion between the cutaneous manifestations and the constitutional symptoms. Failure to see Koplik's spots in measles may be due to the fact that before the physician's visit they had been washed off. These spots can hardly be seen by artificial light, they require an



abundance of good daylight, and the cheek should be everted. Jacob Sobel (*Pediatrics*, Mar. 1, 1900).

### MOSQUITO, METHOD OF DISSECTING.

The routine method of dissecting a mosquito personally followed in many dissections may be thus described: Only the fresh specimen was used. The apparatus and instruments consisted of a Zeiss dissecting microscope; a pair of forceps with extra-fine points; two extra-fine needles placed in wooden handles; normal salt solution; killing fluid, such as absolute alcohol, chloroform, or hot 50-per-cent. alcohol. It was found best to leave the head and neck attached to the body throughout the dissection. Several hours were consumed in each dissection. The mosquito, after being killed, was placed on the glass stage of the dissecting microscope, and a few drops of normal saline solution added, after which the wings and legs were removed close to the insect's body. To dissect out the venomo-salivary gland, one should see Macloskie's directions. A high-power lens should be used in this region. To find the œsophagus, crop, stomach, and Malpighian tubes is a comparatively easy task, patience only being required. Dissections should be made from above downward.

In removing the pharynx, an incision was made in the median line of the head, cutting downward and from time to time adding normal saline solution in order to render the field clear. In searching for the crop and œsophagus, the insect was caught by the remnants of the femora and the dissection was begun by laying open the upper portion of the prothorax on the dorsal surface, carrying the teasing process downward in the median line. Each individual

fragment of tissue was removed, care being exercised not to exert too much force in its removal. From time to time normal saline solution was added to make the field clear of fatty particles. Working along the dorsal surface to a sufficient depth, a few strokes were made on the anterior surface of the thorax, when the clear and glistening crop would come into view, being recognized by its oblong or pear shape, glistening color, and contained air-bubbles. Following up its duct, the œsophagus was easily reached, being recognized by its tubular appearance, brownish color, and elasticity. The œsophagus was then followed downward, cutting through the scutellum. (Here some patience was required in order to prevent the head and thorax from becoming detached. As a precaution it was found best to keep the abdomen pushed well up toward the thorax, so that overstretching would be prevented.) The abdominal wall was then nipped in a number of places, exercising care so as not to injure the Malpighian tubes, when the fatty, whitish particles would escape in large quantity.

To remove the stomach and Malpighian tubes the œsophagus was followed downward by cutting through the abdominal wall and gently teasing the fragments away. From time to time, if the two outer edges of the abdominal wall were placed on the stretch, the stomach and Malpighian tubes could be recognized, the former by its oblong shape, the latter by their loops. Normal saline solution was frequently added, and by gentle teasing all the fatty particles were removed, leaving the other part inclosed within its somewhat elastic abdominal wall. To get a complete dissection, usually three mosquitoes were necessary: one for the pharynx, one for

the œsophagus, crop, and stomach; and one for the Malpighian tubes and rectum.

Ross imbeds in colloidin. Personal sections were imbedded in paraffin, cut with a Minot microtome, and stained with Delafield's hæmatoxylin solution. Albert Woldert (*Jour. Amer. Med. Assoc.*, Feb. 10, 1900).

### NEPHRITIS, DIET IN ACUTE.

When a case of acute nephritis first comes under treatment it is best to enjoin rest in bed, to withhold all food for twenty-four or thirty-six hours, to give water freely, and to empty the alimentary canal by provoking purgation. Milk should then be given, at first in small quantities, at intervals of two hours. The quantity must be increased gradually until 2 quarts are taken daily. Intolerance of milk is often lessened or removed if, when a milk-diet is begun, it is administered in very small amounts, 1 or 2 ounces at a time, and the amount is slowly increased. Milk, moreover, is less likely to produce gastric distress if it be sipped instead of being drunk rapidly. When the urine becomes copious and the amount of nitrogenous matter voided in twenty-four hours all that can be expected, farinaceous foods may be prescribed in addition to milk. In a few days some of the sweet fruits and simpler vegetables can be given. When albumin disappears from the urine an egg can be tried. During the time that albuminous foods are being added to the patient's dietary, close watch must be kept upon the effect of it, the quantity of urine, the amount of daily nitrogenous excretion, the amount of albumin, and number of tube-casts, if any, found in the urine. When an egg can be taken without harm, white meats can be tried, such as the breast of squab and chicken,

a small piece of boiled ham, or perfectly-fresh fish. Red meats, rich in extractives, should not be eaten until recovery is established. N. S. Davis, Jr. (*Med. News*, Mar. 3, 1900).

### NEPHROLITHIASIS.

**Treatment.**—Favorable results in nephrolithiasis have been personally obtained by the administration of glycerin by the mouth. When given in the large doses employed, it causes the urine to become somewhat oily in consistence, and to its lubricating action it is believed the good results are to be ascribed. It is given in quantities of from 1 to 4 ounces, dissolved in an equal quantity of water, and taken as one dose, between two meals, and repeated two or three times in a period of several days. It has been personally used in 115 cases of nephrolithiasis, and in 60 per cent. of these it proved efficacious either by removing concretions or by relieving the pain associated with the disease. Given in the doses named, the only unpleasant effects observed were headache in 12 nervous patients, and diarrhœa in 3 cases where the digestive organs were not healthy. In all the 15 cases these effects ceased in the course of a few hours. In such patients, and indeed in others, it is recommended that the initial dose should be smaller than the minimum dose named, and that it should be gradually increased. The presence of albuminuria does not contra-indicate the employment of glycerin. In 6 cases of the 115 hæmaturia occurred, and this is ascribed to the concretions' changing their position either spontaneously or owing to the glycerin. Herrmann (*Med. Chronicle*, Jan., 1900).

### NOSOPHEN AND ANTINOSIN.

In summarizing the results of personal experiments with nosophen and anti-

nosin, it has been found that they may be considered of great importance in septic infections caused by streptococci and staphylococci.

There has been shown, first, that in non-infected wounds the employment of these substances insures the normal healing process. Especial stress is laid upon the prompt development of leucocytosis and eosinophilia. The latter cells, by division and multiplication in the wound, seem to produce a healing substance which may be absent if the wounded organism is lacking in vitality or the cellular processes are sluggish.

Secondly, the use of antinisin in general septic infections seems to weaken the action of the micro-organisms introduced and to promote the vital functions. Its use is also unattended by the danger so often noticed in connection with the employment of other iodine preparations in internal sepsis. Antinisin does not possess the antipyretic value of antipyrine, but a continuous regulation of the temperature will rather be preferred by the practitioner to acute depressions, which are often so disastrous, in the course of the usual antipyretic treatment.

That this mode of action in opposition to internal sepsis is of very great value has been demonstrated in several cases, especially in a very grave case of diabetes complicated with a septic affection of the thyroid gland. For internal as well as external application, antinisin is used in solution of 1 to 1000 in the mouth, pharynx, and nose. Internally, from 3 to 6 tablespoonfuls of the same strength solution are given. Edwin Klebs (*N. Y. Med. Jour.*, Feb. 24, 1900).

#### OXYGENATED CHLOROFORM.

The advantages worthy of consideration in connection with the use of oxygenated chloroform are as follow:—

#### PARASITIC AND FUNGOID DISEASES.

1. Complete anæsthesia is produced in a shorter time than can be done by chloroform, bromide of ethyl, or ether.

2. The insignificant amount of chloroform used.

3. The pleasing aspect of the patient's countenance, instead of the death-like pallor attending the use of other general anæsthetics.

4. Absence of cyanosis and little, if any, nausea.

5. Tendency to quickly regain consciousness, and the freedom from cerebral excitement afterward.

6. Little shock.

7. Its comparative safety where other general anæsthetics seem contra-indicated. J. Hubley Schall (*Med. Times*, Mar., 1900).

#### PARASITIC AND FUNGOID DISEASES, SAPODERMIN IN.

The treatment best suited for the cure of all forms of parasitic diseases is that which first of all destroys the parasite, its larvæ and eggs, without irritating the skin, and which at the same time causes an involution of the secondary or pruriginous eruption.

The principles of treatment are: 1. The avoidance of all external irritating or injurious agents of whatever kind, whether solutions, ointments, soaps, or what not. 2. The avoidance of all substances which cause a roughening of the epidermis; and the employment of those only which tend to soften and leave the skin in a healthy condition. 3. The use of antiparasitic agents to destroy the organisms causing the inflammation.

These cardinal principles are all happily combined in a remedy which was brought to personal notice last April, since which time it has been tried very generally with excellent results. This remedy, called sapodermin, is a soap in



which the bichloride of mercury is incorporated with triple refined stearin and glycerin. The bichloride is therefore changed into an albuminate of mercury, which is highly active as an antiseptic, destructive to all forms of parasites and fungoid and bacterial growths, yet leaving the skin in a soft, velvety, and pliable condition. There has been no absorption so far as could be judged, and its action is so thorough that it is worthy of extensive employment. G. J. Bucknall (N. Y. Med. Jour., Feb. 24, 1900).

### PEPTONE IN THE URINE.

Peptone, as such, is never a normal element of the blood, it being changed to an albuminous proteid as soon as it leaves the stomach. Its appearance in the urine, therefore, is distinctly pathological, and is now looked upon as of considerable significance in certain pathological states. It is found, for instance, in conditions presenting extensive destruction and absorption of pathological tissues and fluids, such as occur in cancerous processes and the absorption of extensive exudates. Peptone being a normal element of pus, one naturally expects to find it in the urine in such conditions as empyema or extensive pus-formations in general. One may look for peptone in the urine, then, in the following conditions:—

(a) Typhoid fever in the stage of ulceration. In order to cause peptonuria the lesion must be extensive.

(b) Suppurative processes, more especially suppurative meningitis, abscess of brain and liver, and suppurative processes of bones and joints.

(c) Pneumonia at the crisis; due to the absorption of the exudate.

(d) After childbirth; due to the process of uterine involution.

(e) Carcinomatous affections, more especially those of the digestive tract.

(f) Phosphorus poisoning.

It will be seen that the diagnostic value of this test is chiefly limited to suppurative processes in general and cancerous conditions of the digestive tract, and that its absence from the urine does not necessarily disprove the existence of any lesion. However, the existence of peptonuria is corroborative evidence of considerable value. T. P. Prout (Phila. Med. Jour., Feb. 10, 1900).

### PHTHISIO THERAPY.

The following points are urged in regard to the treatment of phthisis:—

1. All patients with incipient phthisis must be occupied in some rational muscular work. These patients are directed to walk or even climb hills and mountains; they can just as well do some work which will keep them busy. This work should be selected with a view to the financial state of the patient. (a) The well-to-do people can do gardening, snow-shoveling, light carpentering work, etc. (b) The poorer ones ought to do, or learn how to do, some work which they can utilize afterward for their own support. Agricultural work, light farming, or the others mentioned above would be suitable. (c) Every sanitarium should be provided with facilities to teach this as far as possible. (d) All this work should go under the supervision of physicians.

2. Sanitariums for the rich and for the poor should be under one financial management, although not necessarily in one and the same place; so that the surplus of one institution can help to support the other. This surplus could be obtained partly from the manual labor of the patients themselves.

3. A society should be formed, if possible, by the people who are mostly affected by it,—viz.: the lodges,—in order to send the patients to a milder climate

where they can work constantly in the open air, as, for example, certain parts of Arizona and New Mexico, where it is easier for them to make a living in a hygienic way than in the overcrowded Eastern States. W. Freudenthal (*Med. News*, Feb. 24, 1900).

### RESUSCITATION OF APPARENTLY DEAD NEWBORN BY LABORDE'S METHOD.

Laborde's method of resuscitating the apparently dead, which consists in the rhythmical traction of the tongue by two fingers covered with ordinary cotton or a handkerchief, the traction being at the respiratory-rate of 18 to 20 per minute in adults, a little more rapid in the newborn, has been successfully tried in personal cases. The nose and mouth should be cleared of mucus. As in all other methods of resuscitation of the newborn, one should not lose courage if after several minutes there are no results or signs of breathing. The tongue at first will give no resistance; after awhile it resists positively; soon very mild respiratory movement is noticed, then all is quiet. In a short time the breathing is stronger, and has a normal character and the child begins to cry, move, etc.

Laborde's method is better than Schultze's, because the child does not become chilled, being all the time in a warm bath; one can notice the beating of the heart; the physician does not tire himself as easily as in Schultze's method; and can use it in cases in which the latter mode of resuscitation is impossible. F. E. Fronczak (*Phila. Med. Jour.*, Feb. 24, 1900).

### RHEUMATIC GOUT.

**Treatment.**—In rheumatic gout (rheumatoid arthritis) the diet should be regu-

lated to suit the needs of each individual case. It is impossible to prescribe a single diet which will suit all, or any great number, of these cases. The patient's blood, urine, and general digestive ability should be considered. An average diet of the sort would be somewhat as follows: Meat, once a day, possibly twice a day, in moderation, and of the lighter kinds, such as lamb, mutton, white meat of poultry, or fish; and eggs may also be used in moderation. Bread-stuffs should be made of Graham, gluten, or entire-wheat flour. Vegetables may be given according to the patient's ability to digest them, but it may be said that far too little attention is paid to the value of green vegetables in such cases. Green vegetables should be used freely. Potatoes, if they do not cause indigestion, the less starchy vegetables, such as squash, green pease, fresh lima beans, and string beans may be allowed. The amount of water to be drunk in a day should not be less than 9 or 10 glasses, or 2  $\frac{1}{2}$  quarts in twenty-four hours. Tea and coffee should be forbidden. Cocoa, broma, and milk may or may not be allowed, according to circumstances; stimulants of all sorts are harmful; sugar, sweetened puddings, strawberries, tomatoes, and pie-plant should be avoided.

Exercise in the open air should be taken to the limit of the patient's ability. The treatments best suited to this class of patients are massage, electricity, Swedish movements, packing, sweating, or counter-irritation about the joints; cool tonic baths freely; hot bathing with great caution. Occasionally a warm bath, from 90° to 92° F., may be a very great aid to the massage, helping to relax the joints; but all the treatment should be directed toward increasing the nutrition and vitality of the patient,

and nothing should be allowed that causes depletion or depression. The Turkish bath is the most valuable of all the hot baths in this trouble.

The salicylate of sodium combined with benzoate of sodium, 5 grains each, given in a glass of hot water three times a day, may be continued for as long a period as necessary,—three to six months,—and is well tolerated by the patient. The necessity of long-continued treatment should be impressed upon the patient from the first, or failure is likely to be the result. Rheumatic gout, like any other disease depending on faults of nutrition, is liable to recur if the habits that first induced it are continued.

It is well, therefore, to say that these patients must change their habit of life if they would obtain a permanent cure. B. C. Loveland (N. Y. Med. Jour., Mar. 3, 1900).

## RICKETS.

**Treatment.**—The institution of preventive measures is a matter of first importance. During the period of gestation the general health of the mother should be kept up to the highest possible degree. Free from care and worry, she should live in the best possible hygienic and sanitary surroundings, with abundance of fresh air, exercise, and plenty of well-prepared food. The common fad of American mothers to escape nursing their children cannot be too strongly condemned. In personal hands no artificial food is comparable with good cows' milk. This, sterilized or pasteurized and diluted in proper proportions with oatmeal- or barley- gruel or sterilized water, with the addition of a few drachms of lime-water, produces an artificial food at once cheap, easily procured and prepared, and efficient.

Babies kept upon this usually become robust and hearty, and with much more resistant power to the diseases of childhood than the fat, yet anæmic, babies of the factory-prepared foods. The hygienic care of the child consists of a daily bath in tepid salt water, followed by vigorous rubbing; warm, light-woolen clothing; plenty of high, dry, out-of-door air; and good sanitation in the house. Such environment and feeding will almost surely forestall any predisposition which could possibly exist.

The medicinal treatment, while secondary to the hygienic and dietetic, is yet of quite measurable value. The general condition should be improved by codliver-oil. This or maltin, either given alone or in combination with the lacto-phosphate of lime, is certainly productive of good. Best results have been personally obtained from oleum phosphoratum, as recommended by Jacobi. This is given before eating and syrup of the iodide of iron in appropriate doses after. In the few cases in which it has been necessary to discontinue this treatment after a few weeks, Fowler's solution has been used in the meantime, the original prescription being again used after the shortest possible *interim*. C. A. Tuttle (Pediatrics, Mar. 1, 1900).

## ROENTGEN RAYS IN LOCATING FOREIGN BODIES IN THE EYE.

The ease and accuracy with which the presence of foreign bodies in the eyeball or orbit may be determined and their exact position indicated by means of the Roentgen rays renders this a most valuable method of diagnosis in injuries of the eyes when the cloudiness of the media prevents the use of the ophthalmoscope.

During the past two years the rays have been personally employed for diag-



nostic purposes in 35 cases of injuries of the eyes, in which the character of the traumatism indicated the possibility of a foreign body's having entered the globe. In 13 cases there was shown to be no foreign body lodged either in the eye or structures immediately adjacent, and the findings were verified in many of the patients by the subsequent removal of an opaque lens or by the clearing of a previously-clouded vitreous. In the remaining 22 cases there was shown to be a foreign body either in the eyeball or orbit, the localization being verified in 16 cases by magnetic extraction or by enucleation, and in 2 cases by the ophthalmoscope. Three cases were gunshot injuries, and no operation was performed for the removal of the shot; while 1 patient did not reappear after the radiographs were made. A foreign body in the eye is always a source of danger, and its presence should be promptly determined and the metal as promptly removed. In every case of injury to the eye from flying pieces of metal, where the clouded media prevents the use of the ophthalmoscope, a radiograph should be made at once to determine whether the metal has lodged in the eyeball. If the examination is negative, both surgeon and patient are reassured, whereas, if the radiographs indicate that a foreign body is in the eye, an attempt to remove it may be made before a firm exudate has formed about it. To wait until the inflammation has subsided in the hope of determining the situation of the metal by the ophthalmoscope consumes valuable time, and menaces the safety, not only of the injured, but of the sound, eye.

Since the non-magnetic quality of copper compels the use of forceps for its extraction, the work is rendered much easier by a knowledge of the exact posi-

tion of the body in the eye, as shown by the x-rays. W. M. Sweet (Treatment, Feb. 22, 1900).

#### SEX, THE DETERMINATION OF, AT WILL.

The following measures in regard to the determination of sex at will have been successfully advocated personally for more than twenty years: The majority of families desire equally boys and girls. Guests invited within forty-eight hours after the cessation of the menstrual period are invariably females, and decidedly so, little girls through and through. Where male issue is desired, continence is advised for from 8 to 10 days after the cessation of the menses. A curious phenomenon shows that, where 8 days were chosen, the result in one case was a male, in another case a female. The two cases were observed closely, and it was found that the male child was decidedly feminine, while the female child was decidedly masculine: a regular "tomboy." Therefore the conclusion has been reached that 8 days seems to be a pivotal point, so to speak, and, to be certain, 10 days' wait should be urged where male issue is desired. A guest invited within 3 days of an expected period will prove to be a female. The majority of women are really immune (if this expression may be used in this connection) from danger of conception from 15 days after the cessation till 3 days before an expected period. J. Griffith Davis (N. Y. Med. Jour., Feb. 21, 1900).

#### SKIN DISEASES, IMPERFECT OR DEFICIENT URINARY EXCRETION AS OBSERVED IN CONNECTION WITH.

A study of two thousand analyses of the urine of skin patients has been made in personal office during the last ten

years, mainly by Dr. H. H. Whitthouse. There has but very seldom been found real kidney disease, manifested by albumin, or renal casts, or glycosuria. But a consideration of the changes which are found in the urine from kidneys not organically diseased may often be of the greatest importance in regard to the life and health of the patient, as indicating the manner in which the processes of assimilation and metabolism are carried out. These alterations in the urinary secretion are not generally to be considered as evidences of faulty kidney-action so much as of errors of metabolism in the system, often dependent upon disorder of the stomach, liver, or other organs connected with digestion and assimilation.

There were 924 analyses relating to 316 patients with eczema. Not only were many found with very high specific gravity, and many very low, but very great discrepancies were observed between the morning and night specimens; the highest specific gravity observed was 1.045, in which the urea was double the normal amount, with abundance of urates and uric acid. The average specific gravity of 885 specimens was 1.023.

While the average of 145 analyses gave an exactly normal proportion of urea, it was relatively below the proper proportion to the average of the total solids, which called for an average of 0.027. There were a number of specimens where it was very high, even up to 0.041, the normal being 0.02; but there were also very many specimens where it was below 1 per cent., in one instance even down to 0.002.

The urinary salts showed very great and strange variations, and no figures can express the conditions found, so irregular were the proportions in various specimens.

In looking over the compiled tables of these analyses one is struck with the universality with which crystalline deposits were discovered by the microscope. The amorphous phosphates were a very frequent sediment, while uric acid, oxalate of lime, and the urates were constantly observed. In almost every one of the 885 analyses one or other, or often several, of these microscopical elements were recorded.

*Acne* is a disease constantly associated with disturbances of assimilation, and analyses of the urine showed abundant evidences of these errors. There were 503 urinary analyses relating to 93 patients.

The specific gravity varied from 1.044 to 1.004; and the average gravity of all was 1.025. There were very many specimens at 1.030, but sugar was not present in any, the increased weight being due to salts. The urea varied from 0.039 to 0.004, but was more commonly above normal; the average of 108 analyses gave 0.022.

As in eczema, the chlorides and phosphates were below normal; the former gave 8.65 per cent. (16-18 normal), the latter 7.7 per cent. (12 normal). The sulphates were slightly increased, 1.2 per cent. (1 per cent. normal). Almost all the specimens exhibited microscopical evidences of derangement, in the way of phosphates, uric acid, oxalate of lime, and urates.

*Pruritus* is accompanied by urine of very different character, as shown by 98 examinations of specimens from 19 patients. The specific gravity varied from 1.036 to 1.008, the average being 1.024. The acidity was considerably above normal, and the urea averaged 2.5 per cent. The amorphous phosphates were found microscopically in almost all the specimens, with uric acid, oxalate of lime,

and urates in a few. Sugar was not recorded in any.

*Psoriasis* is represented by 67 examinations, relating to 26 patients. The specific gravity varied from 1.040 to 1.011, the average of all the specimens being 1.026. The acidity was high, and oxalate of lime was a very frequent microscopical object, being recorded 28 times, and uric acid and urates 17 times. The urea was a little above normal, averaging 2.4 per cent.

The remainder of the analyses related to too few patients in each disease to admit of any general averages' being made.

The object of this study is to call more attention to the fact than is usually granted, that in many patients with skin diseases there are errors of nutrition and metabolism which must have something to do with impairment of the integrity of the skin. L. Duncan Bulkley (*Jour. Cut. and Gen.-Urin. Dis.*, Mar., 1900).

### SPINAL-FRACTURE PARAPLEGIA.

**Prognosis.**—The immediate signs and symptoms of fracture paraplegia give fairly accurate data for prognosis.

If loss of sensation and motion below the injured part is complete and instantaneous, and the patella-reflex (knee-jerk) is lost, the outlook for recovery is almost hopeless. Yet knee-jerk, sensation, and motion may be absent, and recovery takes place after operation.

Partial loss of sensation or motion gives hope that a large degree of recovery may be looked for, the cause in such cases being hæmorrhage within the central canal or in the cord-substance and meninges. Distribution and absorption of blood-clot take place usually within ten days or a fortnight, and returning sensation follows.

Return of motion in complete-para-

plegia cases does not always go on to perfect restoration. Wrist-drop of one hand or dragging of one foot may still remain two or three years after.

In cervical-fracture paraplegia the fifth vertebral body is most often injured; hence the phrenic nerve derived from the third and fourth branches of the cervical plexus gives the only supply to a respiratory muscle, to wit: the diaphragm.

The labored respiration by diaphragm only usually results in pulmonary œdema and hypostatic pneumonia a few days after the accident. This may be overcome by nitroglycerin internally and frequent change of posture.

Intestinal fermentation with temperature disturbance easily occurs in high paraplegias, and is speedily relieved by calomel.

Regeneration of a pulpified cord is impossible. Restored function is probably always due to absorption of blood, or of the secondary inflammatory deposits which prolong the pressure symptoms.

The persistence of bone-pressure at the site of injury justifies operation as much as in depressed fracture of the skull, because through pressure an injured cord must be further degenerated.

Laminectomy should be done as promptly as possible. If the subject be favorable, it may be done by expert use of cocaine. It will be less painful if done before local meningitis sets in.

An x-ray view of the fracture can be readily taken in these cases by from ten to fifteen minutes' exposure, and greatly aids the surgeon. Robert Abbe (*Med. Record*, Mar. 3, 1900).

### STATUS EPILEPTICUS.

The status in epilepsy is fairly well recognized now to be the acme, or cli-



max. of the disease: that is, given the greatest number of contributing causes, the epileptic is foredoomed to die of the status as the maximum development of the disease. Chance plays no part in the production of status.

Throughout all the present-day definitions of *status epilepticus* the constant factors of rapidly-repeated seizures and the progressive, deepening coma are always included as the essentials of the condition. There is also a marked elevation in the fever, pulse, and respiratory curves. Some still hold that status is seen only in certain kinds of epilepsy; but by far the greater number of authorities maintain the more logical ground that the condition may occur in all epilepsies. The fever-curve of status still remains mysterious, although it is generally in direct ratio with the severity and number of epileptic convulsions. Recent statistics seem to prove that epilepsies developed in later life have status in a shorter period of time than when the epilepsy is contracted in early life. Epileptics may never have more than one status period, or may have six or seven, although the latter number is quite rare. Cases are not unknown in which patients have recovered from status and also from the epilepsy proper; although it is now generally conceded that status is the severest manifestation of epilepsy, and but few patients ever recover from their disease when status has once occurred.

The influence of menstruation and pregnancies upon the production of status in epileptic women is *nil*. It is as infrequent a clinical experience to see true status develop from the menstrual period as it is common to see serial attacks of major hysteria at such epochs. This fact alone aids one much in the differential diagnosis. The actual onset

of status does not differ from the beginning of serial attacks, and serial periods, without status, are frequently termed aborted status or pseudostatus. Careful attention to these periods frequently delays the presence of true *status epilepticus* in the individual patient. The gradual, step-like advance of the grave symptoms is the cardinal factor in forming a prognosis of status. Editorial (Med. Record, Mar. 3, 1900).

### TYPHOID FEVER, SPLENIC EXTRACT IN.

In personal cases of typhoid fever, if the enteric symptoms are at all marked, the milk diet is ordered and if the temperature is 104° to 105° F., and has persistently stayed at those figures, 5 grains of splenic extract are given every three hours for the first twenty-four hours. By the end of that time the temperature has dropped steadily to 102° or 103°. Then the extract is given in doses of 5 grains three times a day. If the hæmoglobin is deficient by actual test, or if the patient is anæmic in appearance, or whether he is or not, if the extract does not act promptly, an hæmatinic is given three times a day in addition. The temperature will oscillate up and down for a few days; but each oscillation brings it lower, until in from four to seven days it will be normal and remain at that point.

Extract of spleen produces leucocytosis. In typhoid fever the organic structure of the spleen is attacked; the vital function is impaired; and leucocytosis is absent. C. R. Carpenter (Med. Record, Feb. 17, 1900).

### URINE, EFFECTS OF BENZOIC ACID UPON.

The evident effects upon the urine of the exhibition of benzoic acid are as follows:—

1. An inconsistent diuretic action, accompanied by a slight diminution of the acidity of the urine.

2. A retardation or absolute prevention of the occurrence of the alkaline fermentation.

3. An action in nature germicidal or inhibitory to the growth of certain micro-organisms either within the bladder or when introduced into the urine after voiding, these susceptible organisms including especially those which tend to produce the alkaline fermentation, but which develop in the urine while it is still acid.

If an overwhelming quantity of septic material be present in or be introduced into the urine, even the administration of benzoic acid will not prevent the urea from being broken up and the carbonate of ammonium from being formed. In this connection it may be said, in regard to the therapeutic use of benzoic acid, that when there is a very large amount of residual urine and a firmly-established ammoniacal cystitis, the benzoic acid alone may be insufficient to render the urine acid, there being need as well to completely empty the bladder at sufficiently short intervals, so that the task of the benzoic acid in coping with the bacteria may not be rendered an impossible one by their overwhelming numbers and their intrenchments in a medium so copious and so strongly alkaline that no possible amount of normally-acid urine can neutralize its alkalinity. As the alkalinity itself is a necessary condition to the development of most forms of bacteria, it is probable that in such a case, if the residual urine could but be kept acid for a few days, the bacteria that are immune to the effects of the benzoic acid would mostly perish through lack of an alkaline medium in which to develop, and that the benzoic

acid could then maintain the acidity of the bladder-contents by preventing the growth of such alkaline fermentative organisms as ordinarily would be liable to develop in the acid medium. William W. Ashhurst (*Phila. Med. Jour.*, Feb. 24, 1900).

#### WHOOPIING-COUGH, CARBONIC-ACID GAS FOR.

Two series of cases of whooping-cough occurring in two different years have been treated by rectal injections of carbonic-acid gas. Out of 150 patients, 143 were benefited to a very noticeable extent. The 7 cases that were not benefited were of weakling children in advanced stages of the disease. The carbonic acid was obtained from a mixture of bicarbonate of soda and crystals of tartaric acid. By this method the gas is given off sufficiently slowly, so that its administration may be kept up continuously for the necessary length of time. In infants the injections were given for five minutes at a time; in older children for ten minutes. The administration of the carbonic-acid gas is followed by flushing of the skin, especially of the face. In a few of the patients mild diarrhœa developed. It ceased after a day or two, when the injections were discontinued, and they could usually be resumed a day or two later without necessarily causing the diarrhœa.

The success of the injections of carbonic-acid gas was marked only when the nascent gas was employed; that is to say, when the gas was obtained fresh from the chemical reaction of the bicarbonate of soda and the tartaric acid. In a series of 20 cases, in which commercial carbonic-acid gas was used, it seemed to have absolutely no effect on the whooping-cough. N. R. Norton (*Med. News*, Mar. 3, 1900).

**WOUNDS, DRAINAGE OF.**

The subject of drainage of wounds falls into two divisions: (1) the drainage of wounds which are surgically clean, or are supposed to be such; (2) the drainage of wounds which have been infected, or which are made to relieve suppuration or septic conditions.

Drainage should be limited among the clean cases to the following varieties: 1. In those cases where there has been much traumatism to the tissues, and where large areas of lymphatic vessels have been opened, oozing may be expected, and it seems desirable to prevent the collection of such fluid in some dependent part of the wound. 2. Where there remain at the termination of the operation so-called dead spaces which

cannot be obliterated by deep sutures or other means. These are apt to act as receptacles for any serum or lymph which may escape from the lacerated vessels, and which might then furnish a culture-medium for some of the bacteria which may be found in almost any aseptic wound. Twenty-four hours is sufficiently long in almost all cases for the drain to be left in the wound.

In the second class—namely, infected wounds and those made to relieve a septic focus—drainage is demanded almost without exception. Drainage of abscesses, empyemas, suppurating joints, etc., is effected in the location which gives the best possible escape to the secretions. A. E. Halstead (Med. News, Jan. 27, 1900).

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**Books and Monographs Received.**

The editor begs to acknowledge, with thanks, the receipt of the following books and monographs:—

Transactions of the Mississippi Valley Medical Association; Twenty-fifth Annual Session, '99.—Transactions of the Luzerne County Medical Society, for the Year ending December 31, '99.—Third Annual Report of the Loomis Sanitarium for Consumptives, '99.—Opiates in Bronchitis. By W. T. English, Pittsburgh, '98.—Alveolar Catarrh in Children. By J. C. Gittings and C. H. Judson, Philadelphia.—Influenza. By G. E. Crawford, Cedar Rapids, '99.—Albuminuria and its Relation to Diseases of the Eye. By Alexander W. Stirling, Atlanta, Ga., '99.—Acute Inflammation of the Middle Ear complicating Scarlet Fever and Measles. By C. H. May, New York, '99.—A Case of Congenital Deficiency of Both Clavicles. By W. F. Hamilton, Montreal, '99.—On the Relation Between Disease of the Kidney and Excretion of the Alloxuric Bodies. By C. F. Martin, Montreal, '99.—The Operative Treatment of Uterine Fibroids. By F. A. Lockhart, Montreal, '99.—A Case of Primary Tumor of the Optic Nerve. By F. Buller, Montreal, '99.—Enteroptosis and Its Relation to Functional Disturbances. By W. F. Hamilton, Montreal, '99.—On the Significance of Bovine Tuberculosis and its Eradication and Prevention in Canada. By J. George Adami, Montreal, '99.—Report on Observations made upon the Cattle at the Experimental Station at Outremont, P. Q. Recognized to be Tuberculous by the Tuberculin Test. By J. George Adami and C. F. Martin, Montreal, '99.—Statistics of the Loomis Sanatorium at Liberty, N. Y., '99.—The X-rays as a Diagnostic Agent in Pulmonary Diseases. By J. Edward Stubbert, Liberty, N. Y., 1900.—The Tuberculin Test, and the Need of a More Complete Diagnosis of Tuberculosis. By C. Denison, Denver, 1900.—The Climate of Colorado for Respiratory Diseases. By C. Denison, Denver, '98.—Sterility and Pelvic Deformity. By J. B. Cooke, New York, 1900.—The Diagnosis of Tubercular Peritonitis. By A. Ernest Gallant, New York, '99.—The Treatment of Post-operative Intestinal Obstruction. By A. E. Gallant, New York, '96.—Etherization: The Means whereby the Quantity was Reduced from One Thousand to One Hundred Grammes per Hour: With Especial Reference to the Position of the Head as Affecting Respiration. By A. E. Gallant, New York, 1900.—A Case of Inguinal Hernia of Large Size; Cure Following an Unusual Method of Operation. By A. E. Gallant, New York, '98.—Some Points in the Diagnosis of the More Common Forms of Nasal Obstruction. By C. N. Cox, Brooklyn, '99.—Strangulated Hernia: Some Practical Remarks Concerning Its Diagnosis and Its Proper Management. By Parker Syms, New York, 1900.—Cardiophobia, or Heart-fear. By W. T. English, Pittsburgh, '99.



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### Sajous's Annual and Analytical Cyclopædia of Practical Medicine.

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## Cyclopædia of the Year's Literature.

### ECLAMPSIA, PUERPERAL.

Diagnosis. — Edward P. Davis<sup>1</sup> says that it is generally thought that the examination of the urine is the most important factor in diagnosis, and many regard it as the only examination necessary. This is, unfortunately, not correct,

for some dangerous cases of eclampsia show little signs of approaching danger in altered urine. However, much valuable information can be obtained from

<sup>1</sup> Indian Lancet, Feb. 16, 1900.

this source, and this examination is always an important one. First the presence or absence of solids should be sought; secondly, the presence or absence of kidney *débris*. Serum-albumin is important only when in large amount and appearing with kidney *débris*. To estimate the solid waste the percentage of urea is ascertained, and the percentage of solids is computed from the specific gravity of the urine, or a special examination is made for this purpose. Urea is not in itself a poison, but indicates the perfection of the formation of solid waste in the body and its excretion, and should be accurately estimated.

The use of the centrifuge enables kidney *débris* to be recognized almost immediately and with little difficulty. The physician has in these two procedures—namely: the computation of solids and the recognition of kidney *débris*—the most important methods of diagnosing normal or abnormal excretion during pregnancy. The presence of serum-albumin is, as already stated, of clinical importance only when in excess and when accompanied by kidney *débris*.

The most important method of diagnosis in these cases, however, consists in the clinical phenomena which the patient presents. Headache across the brow, melancholia, stupor, variations in appetite, lack of proper secretion in the skin, and constipation are all symptoms recognized by a careful clinical observer.

**Prognosis.**—An analysis of 79 cases of true eclampsia occurring at the Boston Lying-in Hospital during the last fifteen years has been made by F. S. Newell.<sup>2</sup> The 58 cases in the series who recovered averaged 6 convulsions each; 12 had only 1 convulsion; one patient recovered after 25 convulsions.

The 21 fatal cases averaged 11.9 convulsions each, 1 patient having 46 at-

tacks. Twenty-one of the 79 cases died: a mortality of 26.5 per cent.

Of 32 antepartum cases, 10 died,—a mortality of 31.2 per cent.; of 22 interpartum cases 6, or 27.2 per cent.; and of 25 post-partum cases 5, or 20 per cent., died. This shows that the prognosis of post-partum eclampsia is rather more favorable than in the other two forms.

Of the 57 primiparæ, 12 died, or 21 per cent., which is about the same as Schreiber found in his series, as 19.8 per cent. of his primiparæ died. On the other hand, his mortality among multiparæ was 22 per cent., as against 41 per cent. in personal series. Of the patients who had no premonitory symptoms, 3 died, 2 of them having had only 2 convulsions each, or less than the average for those who recovered.

The prognosis in a given case must always be a serious one. If marked prodromal symptoms are present, the prognosis is somewhat worse than if they are absent.

The number of convulsions is not a sure guide to the gravity of the case; but, in the main, it may be said that the more convulsions the patient has, the worse the prognosis. The urine gives no information as to the probable outcome of the case, as there seem to be no differences in its characteristics whether the patients die or recover. Possibly a systematic examination for urea might show something; but the quantitative test for urea was not made a sufficient number of times in these cases to form any conclusion as to its value. The prognosis is also better in those cases which have been under observation and treatment from the first than in those in whom treatment is begun later, and also is slightly better in primiparæ.

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<sup>2</sup> Boston Med. and Surg. Jour., Nov. 9, '99.



**Treatment.**—In the pre-eclamptic stage James Clifton Edgar<sup>3</sup> observes that the first indication—the reduction of the amount of nitrogenous food to a minimum—can best be fulfilled in an exclusive milk diet, to which, as the symptoms subside or disappear, can be added fish and white meats. For the second indication—that of elimination—one must first secure an abundant supply of pure air and water. This may be assisted by moderate exercise or light calisthenics or massage, in certain instances. For the bowels, daily doses of colocynth and aloes are to be given at bed-time, followed by a saline in the morning. For the liver an occasional dose of calomel and soda at bed-time, followed in the morning by one of the stronger sulphur-waters, as Rubinat, Villacabras, or Birmenstorf. Increased diuresis is secured by maximum doses of glonoin. The action of the skin is encouraged by incasing the body in wool or flannel underclothing, by massage, by the warm bath, hot bath, hot pack, or hot-air bath, according to the urgency of the case.

In instances of eliminative insufficiency one may give at bed-time twice weekly, or more frequently if necessary, a tablet composed of calomel, digitalis, and squill, each, 1 grain; and muriate of pilocarpine,  $\frac{1}{20}$  grain. This is followed in the morning by a full dose of Villacabras water.

When exercise cannot be taken and an abundant supply of fresh air is wanting, oxygen inhalations will prove of service. Some preparation of iron—such as the tincture of the chloride or Basham's mixture—is of value.

It must be kept ever in mind that the hygienic and medical treatment is only of secondary importance to the milk diet, and that the latter is the foundation of the preventive treatment of puerperal

eclampsia. Given a case in which, in spite of the above treatment, the symptoms and signs of the pre-eclamptic condition continue or at any time become urgent, the indication is to induce artificial abortion or premature labor.

According to E. P. Davis,<sup>4</sup> many of the so-called disorders of early pregnancy characterized by the premonitory symptoms of eclampsia, yield promptly to an appropriate diet composed largely of milk, bread and butter, green vegetables and fruit, with an abundance of pure and soft water. The skin must be kept active by a warm tub-bath at night and a cool sponge in the morning. Thin wool or silk and wool should cover the entire surface of the body from the neck to the feet. Abundant fresh air, the entire absence of all constriction of the abdominal viscera, and gentle exercise, such as walking at a leisurely pace upon level ground, or light domestic work in well-ventilated rooms, are all of importance.

If habitual, but simple, constipation be present, a teaspoonful of aromatic cascara should be taken night and morning until the bowels move several times during twenty-four hours. The dose may then be lessened until at least one copious movement daily is secured. If there is impaction of fæces, a vigorous purge should be administered and cascara then employed. Two or three compound cathartic pills at night, followed by a saline and copious enema on the following morning, will partially clear the bowel. An agreeable saline each morning for a week following will assist in unloading the intestines, when the regular use of cascara will usually keep the bowels free. Should this means not be successful, lav-

<sup>3</sup> Ther. Gaz., Dec. 15, '99.

<sup>4</sup> Indian Lancet, Feb. 16, 1900.

age of the intestine should be practiced by a trained nurse. With the patient upon her left side, a soft rectal tube should be inserted as far as possible, and 1 ounce of ox-gall dissolved in 1 quart of warm soap-suds should be gently introduced into the bowel as high as possible. An hour after this, with the patient in the same posture, a copious irrigation of warm Castile soap-suds, or of warm water containing 1 ounce of magnesium sulphate to the pint, may be employed.

The treatment of a simple constipation is rarely sufficient in these cases. It will be found that not only the intestine, but the liver and kidneys are at fault. There is no drug so valuable as calomel in these patients, provided proper caution be exercised in its use. One-fourth grain of calomel with bicarbonate of soda may be given night and morning for several days, citrate of magnesia or other agreeable saline being employed on each following morning. When, however, it is necessary to drain the intestine persistently to relieve the deficient action of the liver and kidneys, the compound colocyath pill of the pharmacopœia may be employed to advantage. From one to three of these pills taken at night result well. It is necessary in all cases where tea and coffee have been habitually and excessively used to cut off their employment as soon as possible. Alcohol should not be taken by these patients in any form. The craving for tea or coffee may be usually appeased by the use of very hot water, effervescent drinks, and occasionally, for a short time, small doses of nuxvomica or strychnine.

In the prophylaxis of puerperal eclampsia Edward Reynolds<sup>5</sup> is a strong believer in the efficacy of diuresis, catharsis, and diaphoresis, obtained by the forced ingestion of fluids, hot immersion baths, and saline cathartics, but they

should be reinforced by rest in bed and a milk diet (this complete or partial, according to the severity of the case), and the exhibition of mild sedatives, such as the bromides.

When even one convulsion has actually occurred, prompt delivery usually saves the mother, while a temporizing policy frequently loses both mother and child.

After delivery or in the puerperium, catharsis is to be used, obtained by calomel and croton-oil if the patient cannot swallow well enough to take salines; diaphoresis secured by the hot-air bath; and diuresis obtained by the administration of the largest amounts of water which the patient can be induced to swallow, fortified by citrate of potash or cream of tartar where the total quantity is small. The dose of cathartics and the heat and duration of hot-air bath should be graduated by the condition of the patient's pulse, the aim being to produce free sweating and three or four loose motions in the twenty-four hours if the patient's strength permits. Occasionally a single hypodermic injection of  $\frac{1}{6}$  grain of pilocarpine may be used in cases where one is unable to obtain diaphoresis without it. Bromides, or large doses of the bromides in combination with small amounts of chloral, should be given to cases in which the urinary suppression is well marked and appears to be the main feature; but chloral is to be used to the point of physiological effect, with or without bromides, in cases in which the convulsions have come with comparatively little disturbance of renal function.

In eclampsia G. J. Englemann<sup>6</sup> favors the supporting, rather than the stimulant, treatment. Venesection, followed by infusion, is the ideal treatment for the

<sup>5</sup> Ther. Gaz., Dec. 15, '99.

<sup>6</sup> Boston Med. and Surg. Jour., Nov. 9, '99.



casting off of the toxins with which the blood is crowded, and the most efficient way of supporting the patient. Salt infusion alone is but a partial remedy.

In 5 cases of eclampsia under immediate care of J. P. Reynolds<sup>7</sup> there was not a single convulsion after ether had been thoroughly given, though in these cases many convulsions had followed other lines of treatment. The harmlessness of continuous and thorough anaesthesia is emphasized. In the 5 cases anaesthesia was kept up from eight to twenty-four hours, deeply enough to keep the patient quiet, and there was not a single symptom that showed that any of the women were any the worse for the anaesthetic.

Assuming the convulsions to be of uræmic origin, A. F. A. King<sup>8</sup> uses hydragogue cathartics, the hot bath, either water or vapor, or the hot wet pack to promote diaphoresis; then, in succession over the kidneys, cupping (dry or wet, as the patient may be respectively anæmic or the reverse), mustard plasters, once only, and continued only long enough to redden the skin; then hot poultices of flaxseedmeal and digitalis-leaves. When renal congestion has thus been relieved (not before), digitalis and citrate of lithium are given internally to increase renal secretion. The patient should be placed in Sims's position, or in any other that will divert the pressure of the gravid womb toward the diaphragm and away from the pelvis.

To control the convulsions themselves when they have actually occurred, large doses of fluid extract of veratrum viride with morphine are given hypodermically; and in anticipation of each convulsion, just as it is about to begin, a cautious inhalation of chloroform.

It is desirable to deliver as soon as practicable, usually by forceps; but, if the

convulsions can be kept in abeyance and labor proceed by itself without interference, so much the better. The room should be kept absolutely quiet. The room should also be dark.

It is usually advised to place something between the teeth to prevent the tongue from being bitten, but this clenching of the tongue by the teeth is sometimes a natural conservative process to save the patient's life by preventing the tongue sagging backward and thus shutting down the epiglottis over the glottis and stopping respiration, when the convulsion is over. In such case the lower jaw should be depressed and the tongue drawn forward with forceps.

F. S. Newell<sup>9</sup> states that the treatment of 79 cases of eclampsia occurring at the Boston Lying-in Hospital has been, in the main, to empty the uterus as rapidly as the conditions of the cervix, etc., permit, and the encouragement of all excretions. After making a careful study of the records it seems evident that shock after operative delivery has played a considerable part in the death-rate, and the application of the same principles after operative delivery is urged that are employed after a severe surgical operation.

Pilocarpine was used in the treatment of 56 cases, 5 of whom died of pulmonary oedema, which illustrates the danger of giving that drug to unconscious patients.

Morphine was used in 2 cases to control the convulsions. One-fourth-grain doses were given in both cases, and repeated once after a two-hour interval. Both patients developed alarming symptoms after the second dose. The treatment was promptly suspended, and both recovered.

<sup>7</sup> Boston Med. and Surg. Jour., Nov. 9, '99.

<sup>8</sup> Ther. Gaz., Dec. 15, '99.

<sup>9</sup> Boston Med. and Surg. Jour., Nov. 9, '99.



Saline infusion was tried in 8 cases, 4 of which died. Two were *in extremis* at the time of infusion and were only given 1 pint each, so that the treatment was not given a fair trial. Of the 6 cases in which the treatment was thoroughly carried out, 4 seemed hopeless, and the infusion was tried as a last resort; 2 of the patients made good recoveries. It seems to be most rational treatment to adopt in all cases as a routine measure, and in suitable cases it may be combined with venesection with great advantage.

In 26 out of 64 antepartum and interpartum cases the convulsions ceased as soon as the uterus was emptied. Two cases were treated expectantly, and recovered without resort to operative delivery. Neither case showed any signs of eclampsia during or after labor. While in 26 cases delivery ended the trouble; on the other hand, the convulsions began after labor in 25 cases. The mortality among the latter class of cases was distinctly less than in the other two classes, so that it may fairly be claimed that emptying of the uterus is of marked benefit to a large proportion of cases, especially when adequate measures are adopted to guard against shock.

Operative delivery was resorted to in 49 out of 56 antepartum and interpartum cases, with 16 deaths. Twenty-five children were still-born or died a few hours after birth. Twenty-seven versions were done and 10 children saved. Only 2 children were lost who were not premature or dead at the time of operation; 20 children were delivered with forceps, 4 of whom were still-born; 4 children were born dead after normal labors.

In the 25 post-partum cases, 3 children were lost.

## INFLUENZA.

**Diagnosis.**—W. Fleming Phillips<sup>10</sup> calls attention to a sign of influenza and

its sequels which, from its diagnostic importance, deserves to be called pathognomonic. The sign was first observed in the autumn of 1892 and is a congestion of the greater part, or the whole, of the faucial arch, including, as a rule, the uvula and often the posterior part of the soft palate, the whole area of congestion being indicated, of course, by increased redness. The dilatation or relaxation of the capillaries, and of the smaller vessels of the mucous membrane generally, is sometimes extreme, the redness being of a more or less dusky tint, and not infrequently arborescent venules are plainly visible, especially about the base of the uvula. But the feature of this affection, which distinguishes it from all other congested or "sore" throats, is a narrow patch of superficial ulceration on the edge of the anterior pillars of the fauces on both sides symmetrically, this ulceration being evidently due, in the first place, to desquamation of the epithelium during the acute attack. In the chronic stage of influenza throat, however, the denuded surface is usually more or less granular in appearance, the granulations being in some cases even exuberant; and this affection, so far from being a rare or a fleeting feature of primary "grip," is all but universally present for months or years after.

Another remarkable fact connected with this lesion of the throat is that it is painless, the exceptions only arising when, from some microbic infection of the ulcers, the chronic congestion passes into inflammation, or when, from some exposure to a chill, the faucial hyperæmia becomes aggravated till a feeling of irritation or vague discomfort ensues.

During the past seven years 500 cases have been personally examined, and it

<sup>10</sup> Brit. Med. Jour., Nov. 11, '99.

was found that the great majority of those who had had influenza even in its mild and ambulatory forms, were the subjects of this characteristic chronic lesion of the throat.

D'Hotel<sup>11</sup> notes that a day or two after the invasion by influenza, the tongue is coated with a white, opalescent fur, covering its centre. It is the last symptom to disappear, and as long as it remains, even if only as a whitish triangle at the base, the disease has not run its full course. This white fur is strongly acid in reaction to litmus.

The eruptions of influenza most often seen by J. Edward Herman<sup>12</sup> simulate those seen in scarlet fever, measles, and herpes.

The measles eruption closely resembles the papular form, is mottled, or at times blotchy. It may be confined to the cheeks or it may cover the entire surface of the body.

The herpetic eruption is frequently called urticaria, but it seems to be more properly called herpes. One of personal cases had a typical herpes zoster, and infected two other children in the same family with a disseminated herpes.

Nil Filatow<sup>13</sup> places under the name of protracted influenza such cases as last a considerable length of time; that is to say, those whose febrile stage is of much longer duration than the average case. The protracted form shows itself more frequently without catarrhal symptoms, but rather with fever which progresses for a long time without intermission; in other instances the chronic form shows itself by severe, but short (one to three days' duration) attacks of influenza, which recur at intervals of months or perhaps years.

The diagnosis, in cases in which the influenza occurs epidemically in certain families, is not difficult. The diagnosis

of individual cases rests upon the character of the fever (moderate rise, paroxysmal course), its duration, and upon the possibility of excluding other causes for its presence. At the beginning, typhoid and malaria must be thought of and later miliary tuberculosis. As to typhoid, negative Widal and diazo reactions are of great significance. The absence of plasmodia speaks against malaria, it is true; yet is not absolute, since, in protracted malarias which have been treated with quinine, they are not infrequently wanting. If, however, the etiology is not clear, the treatment with quinine and arsenic is not productive of good results, and the course of the disease is not characteristic of a typical malaria, then the absence of the plasmodia may be of great importance in the diagnosis. In cases of chronic influenza which are characterized by short recurrent febrile attacks, the absence of enlarged spleen, of malarial cachexia, and the fact that the attack lasts the same length of time whether the patient receives quinine or not, speaks directly against malaria. If the attack lasts two or three days, the temperature remains high during the entire time, and the characteristic febrile malarial periods are wanting. At times it is very difficult to exclude miliary tuberculosis, particularly when the chronic form of influenza attacks one with a tuberculous family history, or one who is predisposed to tuberculosis. The disease begins with catarrhal symptoms and the cough continues; it then becomes very difficult to decide whether one has protracted influenza or tuberculosis.

In influenza of a gastric type Robert J. Colenso<sup>14</sup> says that soon after the in-

<sup>11</sup> Jour. de Méd. Interne, May 1, '99.

<sup>12</sup> N. Y. Med. Jour., Feb. 17, 1900.

<sup>13</sup> Deutsche med.-Zeit., Aug. 28, '99.

<sup>14</sup> Practitioner, Aug., '99.

vasion of the disease, which commences without prodromata in the ordinary lightning-like manner, symptoms of irritation of the alimentary mucous membrane exceed those of the respiratory. This irritation commences as an injection and œdema of the fauces and pharynx, with pain on deglutition and on pressure behind the angle of the jaw. Shortly after this onset, which is accompanied with malaise, and sometimes with coryza, the irritation extends downward along the trachea and œsophagus, but, excepting in such as are predisposed to bronchorrhœa or chronic bronchitis, seems to result in the former case in only a slight bronchial catarrh, with scanty and viscid expectoration, accompanied sometimes with dyspnoea and pain over the manubrium sterni. On the other hand, concomitantly with rigors, a rapid rise of temperature to 103° F., or higher, a great increase in the frequency (120 to 140), and decrease in the volume and tension of the pulse, the gastro-enteric inflammation increases. This is shown by the uniformly-coated tongue; the anorexia increasing to nausea and vomiting; a frequent slight, dry cough; frontal headache and pain in the scrobiculus, the bowels being usually at first constipated. Such symptoms begin on the second day of the disease, and with them is often found pain in the left hypochondrium and enlargement of the splenic and hepatic areas of dullness to percussion. Also at this period there is considerable muscular tremor, mental hebetude, and insomnia, and on this or the following day symptoms of invasion of the bile-ducts show themselves by icterus with bile-stained urine. The temperature remains high with slight oscillations; the pulse becomes quicker, less regular, smaller, and of lower tension; nausea and retching continue, and the thick white and slimy coating of the tongue

becomes drier and darker, not seldom dark brown or even glazed. Tormina occur, and constipation yields to more or less diarrhœa, the stools being foetid, and in appearance a coffee-colored liquid with powdery mustard-yellow sediment. At this stage the disease has a close, though not a lasting, resemblance to enteric fever, and more rarely to acute dysentery, or even to cholera.

**Sequelæ.**—Sassi<sup>15</sup> notes that meningitis and pseudomeningitis may occur as the direct or indirect result of influenza. In attempting to differentiate an influenzal meningitis from other forms useful criteria may be found: (1) in Shelley's sign [the presence of a sago-like looking eruption on the palate and lips]; (2) in the influenzal tongue,—a peculiar opaline, bluish white, porcelain-like appearance, which resists purgative treatment, and lasts throughout the disease; (3) in the study of the temperature, which presents irregular rises, each rise a little less than the preceding, and with marked oscillations between the morning and evening temperatures; (4) in lumbar puncture.

Sansom<sup>16</sup> thinks that tachycardia is the most frequent cardiac sequel of influenza.

Paroxysmal post-influenzal tachycardia is usually accompanied by several ocular symptoms: (1) retraction of the upper eyelids toward and under the margins of the orbits; (2) tremor of both lids when gently closed; (3) von Graefe's sign; (4) one eye on a lower level than the other, from unequal muscular balance [Dixon Mann's sign]; (5) exophthalmos.

Among the more frequent sequelæ of influenza, Saundby<sup>17</sup> places affections of the heart, which may be either organic

<sup>15</sup> *Gl' Incurabili*, An. xiv, F. 17 and 18, '99.

<sup>16</sup> *Inter. Med. Mag.*, Nov., '99.

<sup>17</sup> *Birmingham Med. Rev.*, Nov., '99.



or functional; the functional appearing in altered rate and rhythm, bradycardia more often than tachycardia, of the heart's action, in many cases inconstant, only occurring under certain conditions or at certain times. The symptoms frequently simulate those occasioned by abuse of alcohol, tobacco, or tea. The organic lesions are chiefly shown by dilatation of the ventricles.

In women the clinical symptoms most commonly observed after an attack of influenza are irregularity of the pulse and intermittency, persisting sometimes for months; with pallor, debility, depression; but with no change in the physical signs of the heart. Gastric catarrh is a very common accompaniment. Actual dilatation of the heart, not invariably giving rise to a mitral regurgitant murmur, has been confined, in personal experience, to males.

**Treatment.**—Roberts Bartholow<sup>18</sup> has obtained much success in influenza by the following treatment: At the beginning of the local inflammation  $\frac{1}{6}$  grain (adult dose) of one of the salts of pilocarpine is administered. It is generally best to give one dose of the pilocarpine about two or three hours before retiring for the night, so that the process of salivation and sweating is ended before sleep begins. The number of pills to be taken will depend on the results of their action: usually one at night for two or three nights. On the second day the administration of duboisine should be begun in doses of from  $\frac{1}{300}$  to  $\frac{1}{200}$  grain, for it is not desirable to induce its full physiological effect, and this quantity given once or twice in twenty-four hours will cause some dryness of the mouth and nasal and faucial mucous membrane, and slight dilatation of the pupil. It is important to maintain only a moderate degree of impression by duboisine.

For the depression which is so marked a feature of many cases of influenza there is no remedy so effective, in personal experience, as iodide of iron, which is best taken in the form of the official pill: one every four hours.

Yet another expedient which is of great value is the inhalation of volatile substances. One or 2 drops of pyridine placed on a handkerchief can be readily inhaled as often as necessary. Or ethyl-iodide may be similarly used, or ethyl-bromide when convulsive cough is a symptom.

Treated in this way, ordinary attacks of influenza may be brought to a safe termination. The danger of other maladies' arising intercurrently is reduced to a minimum, and complications are infrequent.

The treatment of influenza is mainly symptomatic. A favorite prescription of G. E. Crawford,<sup>19</sup> and one which he has used very largely and has prepared in quantities in gelatin-coated pills, is the following (this quantity for each pill):—

R Acetanilid, 2 grains.  
Caffeine,  $\frac{1}{2}$  grain.  
Camphor monobromide, 1 grain.  
Capsicum,  $\frac{1}{2}$  grain.—M.

One of these, repeated every hour, for two or three times, gives almost complete relief from the suffering in ordinary cases, and produces no depression. When the fever is high and headache severe, a single full dose of phenacetin, followed by these pills as required, has been the most satisfactory palliative treatment. Small repeated doses of calomel, carried to mild purgation, are beneficial at the beginning of almost all cases. The main indication for treatment, after the relief of suffering,

<sup>18</sup> Phila. Med. Jour., Feb. 11, '99.

<sup>19</sup> Jour. Amer. Med. Assoc., Jan. 27, 1900.

is supportive, from the beginning. Tonic doses of quinine, iron, and strychnine meet this indication better than anything else in a majority of cases. Some cases require special nerve and cardiac tonics. In children, with whom bronchitis is usually the leading feature, muriate of ammonia with ipecac in syrup of Tolu is a most valuable remedy.

H. Huchard<sup>20</sup> notes that, among the mild forms of influenza, there are afebrile types without any inflammation, yet with such profound influence on the nervous functions as to cause much moral, physical, and intellectual depression. As influenza is one of the most powerful factors in lowering the resisting power of the body, these mild types should be recognized and the patient made to avoid contact with tuberculous or other sick people. The skin, liver, and kidneys must be kept active, the stomach and intestines being treated by alimentation rather than by drugs. The mouth and nose should be cleansed by a solution of formol, menthol, or carbolic acid. If the patient is confined to bed, a milk diet is most suitable. Quinine is almost a specific when used in large doses, and 15 to 25 grains of the hydrobromide of quinine may be given a day for from one to three days, but no longer. Antipyrine may be given at the onset for headache, if combined with caffeine or black coffee. For the weakness of the nervous system, glycerophosphates, or strychnine sulphate,  $\frac{1}{30}$  grain, should be used three times a day.

In paroxysmal post-influenzal tachycardia Sansom<sup>21</sup> finds that treatment is often of no avail. Digitalis and the like are useless, except in chronic dilatation; in acute dilatation they are harmful. Simple diet (largely milk), arsenic, and especially weak galvanic currents, passed along the course of the vagi, are followed

by most success; but it usually takes several months before marked improvement takes place.

### LEPROSY.

**Diagnosis.** — D. R. Brower<sup>22</sup> remarks that the anæsthetic form usually begins with an erythematous eruption and with hyperæsthesia, which later gives place to the anæsthesia and later still to the motor symptoms. The ulnar and peroneal nerves are the usual seats of the attack. The invasion of the ulnar nerve by the neuritis develops the characteristic claw-hand of the leper. The diagnosis is made on the condition of the member and of the nerve; the diffused enlargement of the nerve, amounting in some cases to three times its normal size,—an enlargement that is not uniform nor symmetrical, but nodular. The probability is that the bacillus begins its work in the sensory end-organs in the skin; that it travels up the sensory nerves until it reaches a place where the nerves become mixed, sensory and motor; and, when this progressive interstitial neuritis involves the motor and sensory filaments of the nerves, the muscular atrophy and the contractions become manifest. The difficulty in diagnosis is the differentiation of the leprosy from a neuritis that may have its origin in other causes.

From a study of leprosy fever Lewers<sup>23</sup> concludes: 1. That there is an essential leprosy fever due to the presence of the bacillus lepræ or its toxins. 2. That this fever is always intermittent, if uncomplicated. 3. That this fever may occur at any period of the disease, including the so-called prodromal period of some

<sup>20</sup> Bull. de l'Acad. de Méd., Paris, Mar. 5, 1900.

<sup>21</sup> Inter. Med. Mag., Nov., '99.

<sup>22</sup> Med. News, Mar. 24, 1900.

<sup>23</sup> Brit. Jour. Derm., Oct., '99.

writers, and may or may not be accompanied by an eruption. 4. Since all forms of the disease (lepra) depend on the same organism, the fever probably occurs in all, although in varying degree. 5. That when fever of a continued type is observed in leprosy it is due to the presence of other toxins' acting either with, or entirely apart from, those of the bacillus lepræ. 6. That the essential fever of leprosy has little clinical import beyond indicating that the disease is active and progressive.

**Etiology.**—N. S. Rudolf<sup>24</sup> states that the question of greatest interest is as to whether leprosy is contagious or not. Dr. Carleton, Superintendent of the Sabathu Leper Asylum at Simla, India, after his many years of investigation, gives it as his opinion that he does not know.

Some years ago the Indian government appointed a special commission on leprosy, and from their report it appears that they could not get sufficient evidence to prove for certain that the disease is propagated by contagion.

There are many instances of a leper and non-leper living as man and wife without the healthy one's contracting the disease. On the other hand, several cases are reported in which some casual inoculation of the leprosy matter seems to have resulted in the propagation of the disease in a subject free from previous taint.

No case of leprosy has occurred among the attendants of the above asylum, who dress the lepers' sores and rub in oils and other applications with their bare hands.

E. S. Goodhue<sup>25</sup> states that the best authorities are agreed that leprosy is contagious: that is, transmissible from one person to another.

The history of the disease in all countries, and among every class of people, points to the certainty of contagion. It has been traced to sources. Its course has

been progressive when segregation has not been enforced, and retrogressive when it has. In proportion to the failure to carry out segregation, the disease has advanced. Families which in England are and have been free from the taint of leprosy, go to China, or elsewhere where leprosy prevails, and become leprosy. Dressers, nurses, and physicians in leper hospitals contract the disease quite frequently. To Louisiana the disease came with some French settlers; to New Brunswick with Frenchmen; to Minnesota with Norwegians, and so on. In each location where the disease developed, carriers had come from leper-infected places. As in tuberculous disease of the lungs, there is no doubt a tendency transmitted, a peculiar make-up furnished, which is more susceptible to certain specific inoculations. This is evident in the Polynesian. Its members readily acquire leprosy, and the tendency is increased by their habits of life.

Daniel R. Brower<sup>26</sup> says that there have been more than 6000 lepers consigned to the Island of Molokai since the work of segregation began, thirty-five years ago. There are now 1200 lepers in this settlement. In Honolulu, near the receiving station for lepers, there is a home conducted by the Sisters for girls; they have in this home some 30 or 40 girls who were born in the settlement of leprosy parents, and when they were found to be clean at birth, or non-leprosy, they were taken from the settlement and brought to this home, and in the experience of the Sisters, who have been running this home for fifteen or more years, there has not been a case of leprosy developed there.

The physicians of the Board of Health,

<sup>24</sup> Med. Age, Jan. 10, 1900.

<sup>25</sup> Med. Rec., Jan. 27, 1900.

<sup>26</sup> Med. News, Mar. 24, 1900.



who are experts on leprosy, have abandoned the hereditary etiology, regard it as contagious, and account for its spread among the natives by their lowered resistance, a consequence of the great prevalence of syphilis, and their socialistic tendencies. They live principally on two articles of diet: one called *poi* and the other is fish. This *poi* is eaten by the natives out of a common vessel, and with their fingers; the ordinary native dips his first and second fingers into the *poi*-dish and carries the *poi* to his mouth, and then takes a bite of his fish, and has no fear of leprosy. They make a persistent effort to secrete the suspected cases from the health officers. The failure of efforts at early segregation is probably one reason why the work of stamping out the disease has not been more successful. The opinion prevails that the contagion occurs largely through the oral and nasal secretions. Active catarrhal symptoms are present in the great majority of the cases, and the propagation of the disease from the oral secretions is facilitated by the natives' habits of eating and of smoking each other's pipes.

P. A. Morrow<sup>27</sup> says, in recognizing Hansen's bacillus as the active, efficient cause of leprosy, it may be assumed that all of the tissues of the body of the leper containing this organism constitute possible sources of infection, the conditions of infection being that the bacilli should be discharged from the body of the leper, brought in contact with and be capable of penetrating the tissues of a healthy organism in an opportune place favorable for its germination.

It is evident that the more numerous the bacilli and the greater the facility of their discharge from the body of the leper, the more active and virulent the sources of contagion. The tubercular leper, whose cutaneous tissues swarm

with the bacilli, and which are given off in myriads from the open surface of the broken-down tubercles, has undoubtedly a greater contagious activity than the anæsthetic leper, in whom the bacilli are comparatively few and imbedded deeply in the nerves from which they cannot readily find egress.

The investigations of Sticker show that in the 153 cases examined by him evidences of the presence of bacilli in the excretions of the nasal mucous membranes were found in a large percentage of all the cases. In these 153 cases, 58 were tubercular, 68 anæsthetic, and 27 mixed. Of the 58 tubercular cases, bacteriological examination showed the presence of bacilli in all but 2. Of the 68 anæsthetic cases, only 23 contained no bacilli, and of the 27 mixed cases only 1 was free from bacilli. He concludes that the primary affection or its neighborhood in the nose is chiefly the origin from which the bacilli regularly and in enormous numbers are given off in the patient's proximity, and that the nose continues to be an active focus for the projection of the bacilli during the entire course of the disease.

The physiological secretions may contain bacilli; the saliva is loaded with them when the leprosy lesions are situated in the bucco-pharyngeal cavity. The bacillus has not been found in the urine.

The altered secretions of the nasal mucous membranes, the muco-pus and the blood, and the discharges from broken-down nodules and ulcerating surfaces contain the bacilli in vast numbers. In addition to the above sources of infection, it is probable that every open wound or pathological break in the continuity of the skin may afford egress to the bacilli.

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<sup>27</sup> Jour. of Cut. and Gen.-Urin. Dis., Nov., '99.

In personal opinion, most observers err in assuming that there is one exclusive mode of infection in leprosy. It is probable that—like the bacilli of anthrax, glanders, and tuberculosis—the mode of entrance of the parasite into the system is not unique, but multiple.

**Prophylaxis.**—E. S. Goodhue<sup>28</sup> says there is almost less danger to the average reputable foreign resident in Hawaii, so far as leprosy is concerned, than there would be in other parts of the United States. To begin with, he expects to see lepers, and therefore knows how to avoid them. If he should not be able to recognize the disease, which is improbable, others will do so for him. As soon as a leper becomes known, he is isolated. If a man with a contracted finger or a suspicious face is seen, he is avoided. Examinations are made in schools and elsewhere, by physicians, and servants and nurses are usually selected with care. Food-sources are looked into; water is boiled and filtered; and, in the home, the milk is all boiled as well. Everybody is careful.

In the greater part of the United States it is very different. Although there are a great many cases distributed throughout the States, there is no law to prevent its spread. A white leper may go from Hawaii and travel in any American city unmolested.

**Treatment.**—In a case of leprosy R. S. Woodson<sup>29</sup> has used Calmette's serum antivenemieux, which was administered, as a rule, subcutaneously by means of a Pravaz syringe, in the loose tissue of the interscapular region and in other selected places.

In addition to the serum, the patient was kept on large doses of hoang-nan during the entire treatment.

The patient was treated with antivenomous serum from August 19th to

October 17th, during which time 500 cubic centimetres of serum were used in 17 injections: maximum injection, 20 cubic centimetres; minimum, 2 cubic centimetres.

The present condition is one of great improvement. All over her face and ears there is a marked loss of infiltration.

The bluish color of her face has changed to a healthy red. Her eyes are clear and bright. There are no sores on any portion of her body. There is only one tubercle remaining, and this has proved somewhat obstinate, despite frequent local injections. Her anaesthesia has disappeared and her skin has become softer and fairer. She has gained fourteen pounds in weight and her general health is excellent.

#### PERITONSILLAR ABSCESS.

**Location of.**—Cobb<sup>30</sup> calls attention to a space lying just outside the fascia on which the tonsil rests as a possible seat of peritonsillar abscess. This space is called by anatomists the pharyngo-maxillary space. Chiari was the first to attribute the location of peritonsillar abscess to this space. Personal attention was called to the study of the location of the peritonsillar abscess by the immediate closure of the punctures, which often occurred in attempting to relieve the condition. It was noticed that punctures, even when successful in obtaining a free flow of pus, often failed to evacuate the abscess, which only reformed to rupture elsewhere. The existence of a deep location for the pus covered by muscles and fasciae running at an angle to each other, so as to close any aperture made by transfixing two or more muscles at a time,

<sup>28</sup> N. Y. Med. Rec., Jan. 27, 1900.

<sup>29</sup> Treatment, Jan. 11, 1900.

<sup>30</sup> N. Y. Med. Jour., Oct. 14, '99.

would explain this. The depth at which the pus must often be sought strengthens this view, as does the infiltration of the pus into the region of the great vessels. To ascertain the direction of the infiltration of the pus if contained in the pharyngo-maxillary fossa, hot wax was injected into the fossa, through the tonsil on the cadaver, and, after allowing time for the injection to cool and harden, sections were made through the head at about the level of the palate. These sections were then photographed, and they show the wax penetrating the soft palate and the space both above and below the tonsil. They demonstrate that the great vessels are situated in the rear of the space, which is divided into two portions by the styloglossus and stylopharyngeus muscles. It is this partition which usually protects the great vessels from infiltration in peritonsillar cases.

**Treatment.**—The milder course of quinsy in children makes it more amenable to treatment. A. O. Pfingst<sup>31</sup> advises the treatment to be begun with a brisk purgative. Sprays and antiseptic gargles (glyco-thymolin) are useful to keep the mouth clear of the aggravating slime. Pain is often relieved by cold pack or by holding pieces of ice in the mouth. In other instances hot applications (poultices) and gargles of hot salt solutions act more beneficially. Injections of carbolic-acid solutions into the peritonsillar tissue may be used with benefit. The indications for surgical interference are the same in children as they are in adult life. A bistoury should be thrust into the swollen tissue as soon as the presence of pus is suspected. If there is no sensitive spot or an area which pits on pressure to indicate the location of the pus, its most usual position should be selected as the point of puncture (in the velum palati just above the tonsil).

St. Clair Thomson<sup>32</sup> states that the location of the abscess is nearly always above the tonsil, in the region of the supratonsillar fossa, and it bulges forward the corresponding half of the soft palate. If a horizontal line is drawn along the base of the uvula, and a vertical one parallel to the anterior faucial pillar, the point of intersection in the soft palate, quite above the tonsil, is the commonest site of suppuration. The knife should be discarded in the treatment, and a modification of "Lister's sinus-forceps" used to puncture the abscess. The region is first to be painted with cocaine, then under a good light the forceps are introduced with the blades closed, and pressed gently against the soft palate at the site indicated. If they are over where the abscess "points," a "boggy" feeling is transmitted to the hand. In that case the closed forceps should be firmly pushed into the cavity, and as the pus pours out the patient's head should be quickly thrown forward, that it may not enter the larynx. At the same time the forceps are withdrawn with the blades widely opened, so as to leave a free opening for drainage. If this "boggy" feeling is not marked, the point of the forceps should be gently pressed around the region indicated. They are not sharp, so that they will hardly enter healthy tissue, but they are sufficiently pointed to break through, with very little force, the layer of necrotic tissue covering the abscess.

George A. Leland<sup>33</sup> finds that the sterilized index finger used to make clinical observations in cases of tonsillar or circumtonsillar suppuration has thrown

<sup>31</sup> Louisville Monthly Jour. of Med. and Surg., Mar., 1900.

<sup>32</sup> Polyclinic, Feb., 1900.

<sup>33</sup> N. Y. Med. Jour., Oct. 7, '99.



some light on the etiology of this affection; it seems to show conclusively that circumtonsillar inflammation most frequently starts from within the tonsil, in one or more of the lacunæ, and is an extension of the suppurative process in the direction of the least resistance, as is the case with abscess-formation in other localities.

By the use of the finger-tip after the tonsil has been split by the sickle-knife the enlarged and distended crypt can be frequently made out and the sinus followed upward and outward through the tonsil into the circumtonsillar cavity, which may be found either to be small above it or enlarged downward outside of the tonsil and even below it. The exact size of the abscess-cavity has often been determined in this way; and in large ones the tip of the finger has been passed down outside of the tonsil to its lowest limit; and then, in order to give proper exit for the pus at its lowest level, the operation has been completed by tearing through the tonsil inward into the throat, thus passing the finger nearly around and through the organ. If the cavity has not begun to bag downward, such a large wound is not necessary, the exit being made only large enough to empty the abscess from the bottom.

Sometimes, after passing through the tonsil, the finger brings up against a tensely-filled cavity, which it is impossible to enter; this, however, may often be opened in the same way the next day or so, or the probe point of the knife can be forced through by pressing it upward and outward. This starts the pus, which makes subsequent procedures easy, and the pus may be reached before the extreme swelling usually seen is attained.

This method of opening circumtonsillar abscesses with the finger is thorough, it can be made painless under

slight general anæsthesia, the opening is made through diseased tissue, the pus-tract and cavity can be found earlier than by the old methods, and thus much time and suffering are saved.

In cases of peritonsillar abscess associated with diphtheria Thomas Hubbard<sup>34</sup> says that, where pus is confined beneath tissue covered with a diphtheritic membrane, the question as to the propriety of early incisions is an important one. The more the surface is abraded, the deeper will the diphtheritic infection penetrate and the greater will be the absorption of toxin. The physician should be guided by ordinary surgical principles, and first locate the pus accurately. It should be evacuated only through tissue already devitalized by softening, and vascular tissue should, if possible, be avoided.

### RHEUMATISM.

**Diagnosis.**—Arthur P. Luff<sup>35</sup> says that the differential diagnosis of gout, rheumatism, and rheumatoid arthritis is a very important matter. As an assistance in the diagnosis of a chronic articular affection, there is a rough, but fairly sure, test which is frequently of assistance in diagnosis; it is treatment with salicylate of soda. If the case responds well to this treatment, it is a case of rheumatism. If it does not respond to this treatment, the existence of rheumatoid arthritis or gout is fairly certain.

Rheumatism in its subacute or chronic forms certainly may affect the joints, but it never produces that permanent deformity which the other affections may, especially the lipping of the cartilages and the bony outgrowths. As regards the actual diagnosis of rheumatism, it is usu-

<sup>34</sup> N. Y. Med. Jour., Oct. 14, '99.

<sup>35</sup> Edinburgh Med. Jour., Mar., 1900.

ally fairly easy. If a patient complains of pains in the joints, which pain flies about from joint to joint, and generally affects some of the muscles at the same time, and if, in connection with these flying pains, there are indications of the presence of the rheumatic erythema,—erythema nodosum,—then the diagnosis of rheumatism is obvious. Then the response of the disease to treatment by salicylates will settle the diagnosis.

**Etiology.**—I. Adler<sup>36</sup> says that the so-called muscular rheumatism is, according to probability and analogy, an infection with germs, most probably streptococci, possibly staphylococci, of attenuated virulence.

A certain degree of individual disposition toward this class of affections is recognizable. This disposition is augmented by indolent and sedentary habits, by improper nutrition, especially immoderate and rich eating, and alcoholic beverages. It appears, furthermore, that climatic influences may also, in a manner as yet unexplained, act favorably on the development of rheumatic affections.

**Complications.**—V. Uchermann<sup>37</sup> says rheumatic diseases of the ear are rare and but little known. The rheumatic ear affections hitherto described have been complications of rheumatic fever. Ménière mentions a case in which severe intermittent pain preceded by four days the attack of ordinary acute polyarthrititis. A similar case is given by Wolff, who adds that the joints of the ossicles may be affected. Moos has observed a case of apoplectiform (Ménière's) deafness during the period of convalescence after acute rheumatic fever complicated with endocarditis. In a second case various cerebral hyperæsthetic symptoms appeared, with attacks of pain and hyperacusis: in the eighth and ninth weeks impaired hearing ensued, and ended in

total deafness. Among the deaf-mutes in Norway is one in whom the condition of the ear points to the existence of a combined middle-ear labyrinth affection caused by this disease. It is personally believed that in more chronic cases of rheumatism the ear may become affected in a less acute and violent manner, but sometimes with a more serious result for the organ itself. The hypothesis is ventured that many of the cases of serous middle-ear affections, especially those marked by yellowish or amber-colored exudate, are rheumatic in origin, and that salicylic treatment should be tried before any surgical intervention is resorted to. It is admitted that the salicylic treatment seems to influence the acute forms, but not the chronic. These latter may perhaps be more benefited by a general rheumatic treatment.

F. P. Morgan<sup>38</sup> says symptoms of cerebral rheumatism usually appear when the joint-inflammation is at its height, or just as it begins to mend, usually in the second or third week of the disease. They may complicate any case of rheumatic fever, but are usually seen in the severer forms of the disease. The symptoms are usually ushered in by a mild nocturnal delirium, headache, disturbance of vision, and sub-sultus tendinum. Profuse perspiration and vertigo have also been noted immediately preceding the attack. When well developed, the most prominent symptoms are increased cerebral excitement, great restlessness, deepening at times into convulsions, and coma. The last is rarely seen except in the latter stages of cases which terminate fatally.

The increased cerebral excitement shows itself in increased activity of

<sup>36</sup> Med. Rec., Mar. 31, 1900.

<sup>37</sup> Brit. Med. Jour., Sept. 9, '99.

<sup>38</sup> Phila. Med. Jour., Feb. 13, 1900.

thought and almost constant wakefulness and delirium. Heart-failure from pure exhaustion of the cardiac muscle, although no valvular lesion is present, is always a possible danger.

**Pathology.**—According to I. Adler,<sup>39</sup> the anatomical lesion underlying every case of muscular rheumatism, acute or chronic, is an inflammation, not necessarily altogether confined to the muscles, but, as far as the latter is concerned, an interstitial inflammation. Muscular rheumatism may therefore quite generally be designated pathologically as a myositis interstitialis. This is the view held by many of the older authors, and especially urged by Virchow, and, it is believed, is entirely corroborated by all modern experience and investigation.

The rheumatic process in muscles may be conceived as follows: In one or more places of the muscular system hyperæmia with dilatation of the smaller vessels and capillaries, sometimes even accompanied by small hæmorrhages, takes place. This is at once followed by a more or less copious emigration of cells into the interstitial tissues, the leucocytes crowding between the bundles of fibres and even between the single fibrils. Very soon active proliferation of the interstitial connective tissue takes place, and thus in a comparatively very short time after the beginning of this process an infiltration of the muscle is brought about, which varies in extent and density according to the intensity of the process. During all this time the muscle-fibres themselves are not very materially affected; they are pushed apart to some extent, but do not greatly suffer. In the milder types of cases the process ends here. In due time absorption of the infiltrating material takes place. The muscle returns to a condition practically, though perhaps never quite, normal. If

the inflammatory activity attains a higher grade of intensity, more extensive new formation of fibrous tissue is inaugurated, sometimes to quite a considerable degree. The interstitial connective tissue proliferates vigorously; the muscle-bundles and muscle-fibrils have been forced apart and compressed. They also begin to degenerate and are destroyed, exactly in the manner described for interstitial myocarditis. The result of this is a fibrous induration of the muscle. When this stage of fibrous induration has been reached, spontaneous *restitutio ad integrum* is no longer possible. If left to itself, the induration will remain, impeding function, causing pain, and facilitating the recurrence of other acute attacks, thus leading over from acute to chronic muscular rheumatism.

In rare cases the indurative proliferation proceeds still further. Hard fibrous tissue is formed to a considerable amount. The muscular tissue is extensively destroyed. There results from this a white, hard, cicatricial mass of tissue in which the microscope can detect only occasional solitary remnants of degenerate muscular fibres, and which, in its general structure closely resembles tendinous tissue. It is well to emphasize the fact that what is usually termed muscular rheumatism is not necessarily confined to muscular tissue alone. It is of common occurrence that in cases of articular rheumatism the muscles in the immediate vicinity of the joint are also affected, and *vice versâ*, that in muscular rheumatism the nearest joints also suffer, though usually but very slightly. But aside from articular affections, the inflammatory process is, as a rule, not limited to the muscle, but involves the adjacent tissues as well: the

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<sup>39</sup> Med. Rec., Mar. 31, 1900.



fasciæ, tendons; the subcutaneous, fatty, and cellular tissue; and particularly—and this is perhaps not sufficiently recognized—the nerves. A typical rheumatic neuritis (sciatic, median, radial, etc.) has long been recognized, in which interstitial inflammatory processes, similar to those described in the muscles, are at work in the neurilemma. But aside from this typical neuritis of the larger nerve-trunks which occurs as an independent rheumatic affection, it is safe to say that in most cases of rheumatic myositis more or less numerous larger and smaller nerves of the immediate neighborhood are also involved in the process of interstitial inflammation. Not a few of the clinical symptoms associated with muscular rheumatism find their explanation in this affection of the nerve-supply.

If the foregoing anatomical statements are based upon facts, one might justly expect to be enabled to recognize these infiltrations by clinical examination; that is to say, by palpation. With some practice in palpating muscles, and after attention has once been directed to these muscular lesions, it is not very difficult to convince one's self of the existence of these infiltrations, indurations, and swellings in every case of muscular rheumatism. After subsidence of this acute and violent stage, the infiltrations may be recognized by careful palpation in various forms of configuration. They may be round, fusiform, or flat. The surface may be smooth or somewhat broken and uneven. They may be quite hard and firm, or rather soft and doughy. When examining for these muscular lesions it is necessary to compare the suspected area with the corresponding place on the other side.

**Treatment.**—William Ewart<sup>40</sup> ventures the opinion that rheumatism is, in part, a dietetic disease, and that in its wide

range of varieties the "feeding" plan finds application as well as the "starving" plan.

In rheumatic fever the diet at first cannot be too light. Meat and beef-teas have been held detrimental as a source of lactic acid, and milk only prescribed. A milk diet does not agree with all, and in some way it may keep up the acidity and the rheumatism, for there is evidence that fermentation is set up in the stomach as well as on the tongue, and this is regarded as another source of gastric distension in rheumatic fever. A small dose of salt (15 grains to the half-pint) with, or added to, the milk, has been personally tried with success in these cases. In adults salt is now regarded as an indispensable adjunct in all cases of long-continued exclusive milk diet, and the same method has been found successful in those infants who fail to digest, and are supposed to be intolerant of, milk. Burney Yeo recommends a salted alkaline milk drink in acute rheumatism.

A temporary vegetarian diet is as much indicated by the rheumatic state as the avoidance of animal food, and, as the recovery of slow and refractory cases must be dependent upon a supply of suitable food, the administration of soups made of a variety of vegetables may furnish the food as well as in part the medicine required. While meat renders urine acid, vegetables render it alkaline, and this is the result at which one aims.

In acute rheumatism Cline's method<sup>41</sup> is to give about 30 grains of salicin every hour until pain lessens, then every two hours until relieved. Where the heart is weak it can be given in conjunction with cardiac stimulants. In order to get good results from salicin it must be given in large and frequent doses.

<sup>40</sup> Brit. Med. Jour., Mar. 17, 1900.

<sup>41</sup> Col. Med. Jour., Sept., '99.

In acute cases of muscular rheumatism with fever and severe pain, I. Adler<sup>42</sup> directs that the patient be kept in bed and administers salicylates. Salol and its compounds are believed to act more satisfactorily in muscular rheumatism than salicylate of sodium. In most cases better results are noted from the local application of cold (ice-bag) than from hot fomentations and hot-water bags. The rheumatic infiltrations and indurations can be best dealt with by proper massage. For this purpose the *masseur* must be possessed of a specially trained tactile sense in order to find even the slightest infiltrations, and a special technique is required in their treatment. Quite soft and recent infiltrations are handled differently from old and hard fibrous indurations. In the latter the object of the massage is the forcible breaking up of the fibrous masses and the production of reactive hyperæmia and inflammation which will gradually under persistent and judicious treatment end in absorption of the fibrous induration and in new formation of muscular tissue. In the former the procedure is simpler and easier, though the principle is the same. Very few *masseurs* understand, and are trained for, this special work. It is well to commence the mechanical treatment as soon as the acute stage of fever and intense spontaneous pain has passed. This kind of massage is necessarily quite painful, especially at the beginning of the treatment. As the infiltrations are reduced, the painfulness of the massage rapidly diminishes. The rare cases of genuine muscular cicatrization can derive no benefit from massage. In these cases the fibrous cicatricial tissue must be excised. This has repeatedly been done with excellent result.

Hirschkron<sup>43</sup> thinks that sodium salicylate, though the most useful drug in

acute rheumatism, generally fails in chronic cases. Large doses of salipyrin or salophen sometimes succeed when sodium salicylate fails. In acute rheumatism, massage, electricity, and baths are of secondary importance. Massage is indicated in chronic rheumatism, in which disease electricity has very little analgesic effect. All kinds of liniments act only through the rubbing. The treatment by applications of mud and "moor" baths is valuable. The best of these is the recently introduced ichthyol-moor mud. When dry it is a fine powder, and before use must be mixed with warm water. It is then boiled and wrapped in a linen bag, in which the painful part is packed, or is mixed with the bath-water. It allays the pain of chronic processes in a wonderful way, and at 86° to 104° F. causes the absorption of inflammatory deposits. The analgesic action can be raised by spreading a 30-per-cent-ichthyol ointment over the part before applying the mud. On an average, thirty to forty "packings" are required in each case. The mud appears to cure partly through the action of the ichthyol on the cutaneous vessels and partly as a fermentation.

Aspirin is described by G. C. H. Meier<sup>44</sup> as a combination of salicylic acid and acetyl, appearing in the form of white, crystalline needles. It is insoluble in water and acid fluids, but in alkaline fluids is decomposed with the liberation of nascent salicylic acid. Owing to these chemical characteristics, it passes unchanged through the stomach, and is not decomposed until it reaches the intestinal canal, thus avoiding any action upon the stomach. The dose of aspirin is the same as that of salicylate of sodium.

<sup>42</sup> Med. Rec., Mar. 31, 1900.

<sup>43</sup> Wiener med. Presse, Aug. 6, '99.

<sup>44</sup> Amer. Therap., Dec., '99.

From personal experience with aspirin in acute rheumatism it has been found that its effect differs in nowise from that of salicylate of sodium, and that it has the advantage of being entirely devoid of troublesome effects upon the stomach. These observations are confirmatory of those obtained by Wohlgemuth, Witt-hauer, and Lengyel.

S. J. Bassford<sup>45</sup> thinks that rest to the affected part is the first and very important indication in rheumatism. Rest in bed in case of lumbago is necessary. Friction by brisk rubbing is often a means of relief.

The use of liniments, of which the following have proved of value, is often very acceptable to the patient: Chloroform liniment; one compound composed of equal parts of tincture of arnica, and soap liniment; and another of equal parts of chloroform, tincture of aconite, and tincture of opium; and one that has personally been used with great success, made up of  $\frac{1}{2}$  ounce of chloride of ammonium, 1 ounce each of alcohol and dilute acetic acid, and 6 ounces of water.

Heat applied to the affected part is usually very acceptable to the patient, and gives relief whether in the form of dry heat or by means of bathing.

Electricity is often of marked value. Acupuncture in lumbago is the remedy of most value in the hands of some practitioners.

Tonics, both general and nerve-tonics, are indicated. Salicylic acid or some of its combinations are of value. Guaiac is a remedy upon which much reliance is to be placed, especially for lumbago and allied forms of rheumatism. Guaiac excites an abundant flow of saliva, creates a sensation of warmth in the stomach, increases secretions of the gastro-intestinal canal, accelerates action of the

heart, and promotes diaphoresis. A favorite method of administration is to use the following: Aromatic spirit of ammonia, 3 drachms; Dewees's tincture of guaiac, q. s. to make 4 ounces. Sig.: One teaspoonful in half a glass of milk three or four times a day.

According to F. P. Morgan,<sup>46</sup> treatment of cerebral rheumatism is entirely symptomatic. The salicylates appear to have no effect either to prevent the condition, or to remedy it, after it has once arisen. If salicylates are being taken, the cerebral symptoms should lead to a discontinuance of the remedy, other circumstances permitting, for a few days at least.

In the milder cases, the bromides, sulphonal, or chloral may be employed to combat the excessive restlessness, and insomnia, and abnormal overactivity of the brain. In the severer cases hypodermic injections of morphine at regular intervals are required.

The condition of the heart should be carefully watched, and any tendency to exhaustion or failure at once calls for the use of active heart-stimulants—nitroglycerin, strychnine, or a combination of these, or digitalis, depending upon the indication in each individual case.

A co-existent hyperpyrexia should be treated according to the usual methods of treating that complication. The application of an ice-bag to the head is a most useful measure in all cases. In the milder cases, cold sponging with alcohol or iced water will serve to reduce the temperature. In severer cases cold packs may be employed. When the temperature is very high, and endangers life, resort must be had to the cold bath, given in the same manner as in typhoid fever.

<sup>45</sup> Jour. of Med. and Sci., Mar., 1900.

<sup>46</sup> Phila. Med. Jour., Jan. 13, 1900.



## Cyclopædia of Current Literature.

### ANÆSTHETIC FOR CHILDREN.

In children ether is, in general, the safer anæsthetic. Chloroform is especially dangerous in children who have been weakened by any inherited or acquired dyscrasia or from improper nourishment, and great care should be taken to prevent a too-rapid administration of this agent when, as is frequently the case, the little patient begins to struggle and make rapid and deep inspiratory efforts. In children over twelve years of age, well nourished, with no serious lesions of the kidneys or respiratory apparatus, chloroform is as safe as ether. J. A. Wyeth (Jour. Amer. Med. Assoc., Mar. 24, 1900).

### ANEURISM, AORTIC.

**Diagnosis.**—With respect to the differential diagnosis of aortic aneurism, it may be asserted that in certain conditions it is one of the most difficult questions in diagnosis, since, for example, on the one hand, sarcoma may present marked pulsation, and, on the other hand, an aneurism, as one described by Carpani, may present no pulsation whatsoever. On the whole, one may assert that aortic aneurism is more frequently met with than other tumors of the mediastinum. If one meets with recent paralysis of the recurrent laryngeal nerve in a man in the middle period of life, especially between 45 and 60; and if tracheal tugging and inequality of the pulse are also present, as well as pulsatory signs in the region of the manubrium sterni and adjacent parts; if the Roentgen-ray shadow shows a pulsating thickening of the aorta, then one is justified in diagnosing aneurism, especially if the patient has previously suffered from syphilis. Moritz Schmidt (Med. Chronicle, Mar., 1900).

### ANTEFLEXION, OPERATIVE TREATMENT OF.

The following rules may be laid down for guidance in the operative treatment of antelexion:—

1. In antelexion without ovarian or tubal disease, and free from shortened utero-sacral ligaments or posterior adhesions, dilatation, curetting, and Dudley's operation or amputation of the cervix may be used, with a preference for the former.

2. In antelexion with retroposition and shortened utero-sacral ligaments or posterior adhesions, and without ovarian or tubal disease, dilatation, curetting, and division of the utero-sacral ligaments or adhesions by colpotomy and Dudley's operation or amputation of the cervix, with a preference for the former. Amputation of the cervix is a useful operation where the cervix is very long and also where there is extensive erosion of the crown of the cervix. In married women in both of the foregoing classes dilatation and curetting without other operation are sufficient, because pregnancy will usually straighten the uterus and stretch the ligaments and adhesions. Should pregnancy not supervene within a number of months, and should the symptoms persist, another curetting and Dudley's operation, with or without division of the ligaments, may be done.

3. In antelexion, with or without retroposition, having ovarian or tubal disease, dilatation, curetting, Dudley's operation, and *suspensio uteri*, the utero-sacral ligaments being divided through the abdominal wound if they are shortened and whatever may be necessary done to the ovaries and tubes. W. L. Burrage

(Boston Med. and Surg. Jour., Mar. 8, 1900).

### ARTERIOSCLEROSIS.

**Treatment.**—The treatment of arteriosclerosis must have due regard to the cause. Excess in diet; in the use of tobacco; in drink, either alcohol, coffee, or tea; excessive physical labor; or indulgence in exciting pursuits, such as gambling, stock-jobbing, etc., should be avoided. The lead-worker must change his occupation. The man of affairs should circumscribe his business engagements so as to allow ample time for rest and recreation. The patient should spend from eleven to fourteen hours in bed daily. The bowels are to be freely moved and any tendency to straining at stool avoided. The function of the skin is to be stimulated by sponge-baths, and the functional activity of the kidney frequently tested by measuring the total daily elimination of urine and the proportion of nitrogenous waste-products.

The diet should contain a relatively small percentage of starch and saccharine substances; but vegetables and fresh ripe fruits may be permitted freely. The lighter meats and fish will be better borne than red meats or game. Alkaline water, particularly effervescent waters, may be permitted, but should not be urged upon the patient unless there be deficient urinary secretion.

Great value will be found to attend the so-called Schott method: the treatment by medicated effervescent baths and resistance movements.

Nitroglycerin and the nitrites are of service. One grain of sodium nitrite, or  $\frac{1}{100}$  grain of nitroglycerin taken three times daily will, in conjunction with proper rest, be of great value. The force and frequency of the pulse must be the guide to proper dosage.

Sodium iodide has been strongly indorsed. It is supposed to exercise a chemical effect directly upon the diseased arterial wall.

When dilatation of the heart occurs, the medicines most likely to yield prompt results are the heart-tonics: digitalis in infusion, tincture, or as digitalin; strychnine, caffeine, and strophanthus. Momentarily they greatly increase the comfort of the patient, yet often the heart makes a supreme effort under the stimulus, only to succumb the more promptly. Joseph Eichberg (Phila. Med. Jour., Mar. 10, 1900).

### CÆSARIAN SECTION.

Cæsarian section has been personally performed in fourteen cases without mortality, and the conclusions reached are as follow:—

1. The indications which render the Cæsarian section justifiable vary in accordance with whether the mother is, or is not, already infected with sepsis, exhausted by prolonged labor or by previous severe efforts at extraction of the child, or the subject of serious complicating disease.

2. When her vitality is lowered by any of these causes, the maternal death-rate of the Cæsarian section is so enormous that it is justifiable only for the absolute indication: *i.e.*, when the child cannot be extracted by any other method.

3. In the absence of such unfavorable conditions, and under circumstances which render good operating possible, the Cæsarian section is no more dangerous to the mother than any other simple abdominal operation; it is therefore (*a*) the operation of choice in cases already at term in which the ordinary intrapelvic operations are inefficient; and (*b*) may even be chosen in suitable cases in preference to the induction of prema-

ture labor, on account of its greater safety to foetal life.

A proper application of these rules to practice seems distinctly desirable; but the extent to which the conclusions favorable to the section may, with safety, be generally applied is a question of much importance and of no little difficulty. Although the operation itself is easily within the powers of any fair abdominal surgeon, it is not an operation which can be done hurriedly, nor without the fullest preparation necessary for any laparotomy. If difficulty has not been anticipated, it will seldom be possible to complete the preparations for the operation in time to save the child; and it is far better to sacrifice the child than to expose the mother's life to the real danger which is incident to any hurried and incomplete preparation for such work. Although the operation itself, under proper circumstances and with proper preparation, is a decidedly easy one, the decision that such an operation must be performed is one of the gravest responsibility and is often a decision of great difficulty, such as should be intrusted to an expert obstetrician only. In fact, the best test of the adaptation between the head and pelvis is to be found in the progress of labor, and in many cases, the question as to whether the Cæsarian section is necessary, or whether forceps may possibly be successful at term, must be left for decision during labor. Edward Reynolds (*Obstetrics*, Jan., 1900).

#### COLITIS, MEMBRANOUS.

**Treatment.** — In membranous colitis the first indication for treatment is to relieve the colonic symptoms proper. Nothing is so soothing to the tenesmus and the general abdominal distress as irrigation of the colon with decinormal saline solution at a temperature of 110°

F. This irrigating fluid should contain 5 drops of oil of peppermint to the pint of water. The irrigation should be given with the Kemp rectal irrigator, and several gallons of the saline solution should be used. This irrigation may be used as often as once in twelve hours. Unfortunately such treatment is not curative. In small or alterative doses of castor-oil the physician possesses a remedy which is believed to be distinctly curative in this affection. Castor-oil may be given in an emulsion, each tablespoonful of which contains half a drachm of the oil. It should be given half an hour before, or more than one hour after, meals, and should be continued for months at a time. Another useful remedy is nitrate of silver, given in doses of  $\frac{1}{4}$  grain of the silver salt, combined with 9 grains of turpentine, in capsules, three times daily. After a course of this medication for six weeks, sulphate of copper should be substituted for the silver salt, and should be given in doses of  $\frac{1}{4}$  grain. Abdominal massage and out-door exercise are useful adjuncts. As regards diet, these patients should be told simply to exclude beans, corn, spinach, and the woody vegetables. W. H. Thomson (*Med. Record*, Mar. 10, 1900).

#### COLITIS, MUCOUS.

**Symptoms.** — There are three prominent symptoms in mucous colitis, viz.: (1) neurasthenia, (2) the passage of mucus in various forms from the bowel, and (3) the existence of abdominal pain. These, with the history of long duration, make up the clinical picture of mucous colitis. The three symptoms usually co-exist, but any one may be present or may largely predominate. Practically all cases give a history of neurasthenia, and, although it is not always marked, it is invariably present. It is very common for the pain and the desire to go to stool



to come on very early in the morning. Not all the patients have loose passages; some pass hard masses of feces. The mucus is always separated from the fecal matter, and not mingled with it as in catarrhal processes of the bowel. The cause of this disorder is to be found in those occupations which overstrain the nervous system, and hence it is far more common in women than in men, and is a disease of brain-workers as distinguished from other occupations. The disease is most common between the twentieth and forty-fifth year, but childhood and old age are not entirely exempt.

**Treatment.**—In the treatment the rule should be not to treat the bowel trouble as such, but to treat the individual. The general nutrition should be improved by the combined use of rest and food. Some clinicians advise the use of unbolted flour, small fruits with seeds, and other irritating articles of diet, with the idea of thus stimulating the intestine to do its work better. In administering enemata it has rarely been found necessary to use the long rectal tube; either drugs or decinormal saline solution may be employed, 1 or 2 quarts being given daily at the same time each day. It should be retained for about fifteen minutes. Drugs play a very subordinate part in the treatment of this disease. Unless the patients are willing to give the necessary time to the proper treatment—usually several weeks—very little can be expected. The neurotic woman is usually cured, while the hysterical woman breaks off treatment and relapses again and again, and rarely recovers completely. Walter Mendelson (*Med. Rec.*, Mar. 10, 1900).

#### **COLLAPSE FROM BLOWS UPON THE LOWER CHEST AND EPIGASTRIUM.**

From research into the cause of col-

lapse or death from blows upon the lower chest and the epigastrium upon animals, it is found that collapse or death may be caused wholly independently of the vagi, though the vagi probably slightly contribute to the result.

Collapse or death from violence applied upon the lower chest or abdomen is due mainly to the loss of rhythmical contractions from the mechanical irritation of such violence on the heart-muscle itself. There is evidence tending to show that the vagal terminal mechanism in and near the heart may contribute to the result, but in a minor degree. G. W. Crile (*Phila. Med. Jour.*, Mar. 31, 1900).

#### **DIABETES MELLITUS.**

**Treatment.**—The prognosis of diabetes mellitus was never more favorable than at the present time, providing the treatment as outlined below is followed. The diet-list must be made as comprehensive as possible. When pure-gluten bread can be obtained, it is admissible. Almond-flour is a fair substitute, but it is not long tolerated, and is quite expensive. Soups made without rice or starchy articles; fish, poultry, game, and meats, with the sole exception of liver; spinach, cabbage, cauliflower, string-beans, pickles, mushrooms, asparagus, oyster-plant, tomatoes, eggs, cheese, butter, cream in moderation; tea, coffee, and cocoa sweetened with glycerin or saccharin—these make up a list of the changes which may be used. Milk contains a large amount of sugar or lactose, and should therefore be used sparingly if at all.

Hygienic measures are not to be overlooked. Diabetics are particularly susceptible to cold, and require a higher temperature in their apartments than people in ordinary health. For the same reason the clothing should be sufficient to keep the body comfortable at all seasons of the

year. Exercise in the open air should be taken with due care not to overtax the enfeebled muscular powers. Every effort should be made to avoid nervous strain and mental excitement of all kinds. Plenty of sleep and adequate rest are also important.

The medicinal treatment of diabetes in combination with a rigid diet like that already indicated is promising of good results. The indications for treatment are to curb and regulate the nervous influence at the root of the trouble, improve the blood and the circulatory system, and prevent, as far as possible, the invasion of the micro-organisms and inhibitory products of incomplete and imperfect digestion from the alimentary canal. The remedy which best fulfills these indications is found in the double bromide of gold and arsenic, introduced to the profession under the name of "arsenauro." It combines in one the tonic alterative elements of the two metals and the sedation of bromine. In the majority of cases rapid and marked benefit has followed the use of the preparation.

"Arsenauro" should be administered after meals, beginning with 5 drops, and increasing the dose 1 drop each day thereafter until the limit of physiological tolerance is evident: *i.e.*, puffiness about the eyes, a tendency to diarrhoea, and colicky pains about the abdomen. This limit differs; in some patients it will be reached at a 10-drop dose, and in others it will require 30 or 40 drops. G. D. Barney (N. Y. Med. Jour., Mar. 31, 1900).

### DIVERTICULA, ŒSOPHAGEAL.

**Diagnosis.** — In the differential diagnosis of diverticula it will be well to consider the following points:—

1. With dilatation, as well as with diverticula, there occur painful cardio-

spasms (Kelly, Jung), as well as painless cases (Reitzenstein).

2. In both, vomiting occurs from the œsophagus, occasionally from the stomach. Even in cases of typical cardio-spasm eructation from the stomach may occur.

3. If food eaten one or two days before is vomited, while other food eaten in the meantime remains down, the case seems to be one of diverticulum. No observations to the contrary have been made so far.

4. The swallowing sounds are abnormal in all cases of dilatation. In cases of diverticula the swallowing sounds are audible in 33 per cent., and can be used for diagnostic purposes (Kelling's method). Westphalen's sound can be heard in diverticulum with dilatation of the œsophagus (Jung).

5. If after emptying the œsophagus it is easy to enter the stomach, a diverticulum probably exists (Mintz, Reichmann). Yet the passage of the tube may be difficult. "Only once out of ten experiments does one find the cardia and gain entrance into the stomach" (Reitzenstein).

6. In making Rumpell's test, proof must be furnished that the tube is actually in the stomach. Inflation in this case is impossible, as feeling of the sound is not always practicable.

7. The proof positive of having entered the stomach is obtaining gastric juice through the inner tube (Jung).

8. Mercier's sound or Leube's diverticulum-tube is necessary in order to find the entrance into the stomach. These tubes must be perforated for the diverticulum-test, and by means of a thin inner tube gastric juice can be brought up.

9. After a diverticulum has been diagnosed its height can be ascertained (*a*) by Kelling's test [swallowing sounds] and (*b*) by filling the diverticulum with a

colored solution and putting a narrow strip of white adhesive plaster longitudinally on the tube.

10. Neubauer's experiment for ascertaining the level of the liquid can also be used, according to Kelling, to determine the entrance into the diverticulum.

11. The entrance of the diverticulum can easily be overlooked by œsophagoscopy.

12. Gastrodiaphany did not show the diverticulum in Mintz's case, and gave no information about the kind of enlargement. In Reitzenstein's case it was possible to make the diagnosis of diverticulum by gastrodiaphany alone.

13. X-rays show an enlargement of the œsophagus only.

14. The statements of even the most experienced patient, that the tube is in the stomach, are often erroneous. The bending of the tube gives the patient and physician alike a sensation as though the tube had entered the stomach. F. A. R. Jung (*Amer. Jour. Med. Sci.*, Apr., 1900).

### DUODENAL ULCER.

**Diagnosis.**—In the great majority of cases of duodenal ulcers the lesion is not recognized before perforation. It has been stated that diagnosis is impossible; but Boas denies this and narrates the histories of several cases in which he was able to recognize the presence of the ulcer. He groups the symptoms under the following heads: 1. Sensitive points—correspond to seat of pain in parasternal line, 2 centimetres below the gall-bladder. There are numerous exceptions. 2. Vomiting. Vomiting, probably reflex, occurs after prolonged and severe pain; it is present in 17 per cent. of the cases. 3. Intestinal hæmorrhage and hæmatemesis are present in one-third of the cases in marked degree. The loss of blood may

### EARACHE IN CHILDREN.

be so great as to cause symptoms of collapse or even to be fatal. Repeated intestinal hæmorrhages along with the other symptoms of the ulcer are characteristic. 4. Composition of the stomach-contents. Observations have differed so much that at present no value is to be attached to hyperacidity or subacidity. 5. Urine, negative. 6. Jaundice is not significant.

Perforation of the duodenum at the site of ulceration, however, marks the beginning of a sequence of symptoms of severe character which vary somewhat, depending upon the seat of the perforation, the rapidity of the escape of intestinal contents, and development of adhesions. The first symptom noted has usually been severe pain, referred at times to the region of the duodenum, to the upper part of the abdomen, or not localized at all. Vomiting, as a rule, promptly follows the onset of pain.

The next symptoms to appear are those of peritonitis. These are usually those of the severe and rapidly-spreading type. Less often the peritonitis is circumscribed. In either case the inflammation begins in the right side of the abdomen. It thus simulates with great exactness the peritonitis which originates in appendicitis. T. E. Satterthwaite (*Med. Record*, Mar. 24, 1900).

### EARACHE IN CHILDREN.

Personal conclusions regarding earache in children are: 1. Earache in children is generally caused by acute inflammation of the middle ear, suppurative or catarrhal. 2. Infants and young children may have suppuration in the middle ear without giving satisfactory evidence of pain, or without rupture of the drum-membrane. 3. In the absence of other known cause of pain, from which a child is evidently suffering, the first cause to



be thought of should be acute otitis media, and this calls for an examination of the drum-membrane. 4. It has been shown, by examination of the middle ear during life and post-mortem, that purulent otitis media is nearly always present in acute infectious diseases of the gastro-intestinal and respiratory tracts in young children, especially in gastro-enteritis and broncho-pneumonia, to which diseases it probably stands in a causative relation. 5. The cause of death in many acute and chronic infectious diseases, in meningitis, and in the exanthemata is the result of unrecognized and untreated abscess of the middle ear. 6. Repeated earaches in children are ordinarily but a sign of acute exacerbations of a chronic otitis media resulting from adenoids. 7. In adult life so-called catarrhal or progressive deafness is often but a final stage of the otitis media which had its beginning in early childhood, when it was due to adenoids and practically curable. T. H. Halsted (Med. News, Mar. 17, 1900).

### GONORRHOEA.

**Treatment.**—Methylene-blue administered internally will cure gonorrhœa in from four to seven days. To the diplococcus, which is the specific cause of this disease, it is especially fatal. The pyogenic bacteria that make gonorrhœa a mixed infection succumb very promptly to this germicide.

It is best given in gelatin capsules in 1-grain doses three or four times a day. After the fourth day the dose may be reduced to twice a day. Given alone it sometimes causes irritation of the neck of the bladder, but when combined with oil of nutmeg there is no trouble of this kind. Oil of sandal-wood is a desirable adjuvant because of its diuretic action and also on account of its sedative effect upon inflamed mucous membrane. Re-

cent observations show that, when given internally, methylene-blue reappears unchanged in the urine within two hours. By giving four 1-grain doses of methylene-blue daily there is always enough of it in the urine to kill all the germs it comes in contact with. This is irrigation "from above," irrigation, not of the urethra alone, but of the entire urinary tract. By this method of irrigation there is no danger of forcing the infection into remote recesses of the genito-urinary organs.

Troublesome gastric symptoms sometimes follow the administration of the methylene-blue of the shops, but, with the following formula put up in elastic capsules, uniformly satisfactory results have been personally obtained:—

R Methylene-blue, 1 grain.

Oil of nutmeg, 1 drop.

Oil of sandal-wood, 2 drops.

The above formula should not be used for more than ten days without intermission, and while giving it the patient should be instructed to drink freely of water. Joseph Alan O'Neill (Med. Rec., Mar. 24, 1900).

### GONORRHOEA IN WOMEN.

**Diagnosis.**—The diagnosis of gonorrhœa in women is much more difficult than in men, chiefly because a whitish, leucorrhœal discharge may be considered more or less normal in women, whereas in healthy men there is no urethral discharge.

The certain diagnosis of gonorrhœa in women depends very largely upon the demonstration of the gonococcus in the secretions. A profuse purulent urethral discharge is quite as diagnostic as it is in men, but when one takes into consideration the fact that the acute urethritis is comparatively fleeting in its character, and that the disease may persist months

and even years after all of these symptoms have completely disappeared, it will be seen that little importance can be placed upon this sign.

In securing the pus for examination the greatest precaution should be observed not to have it contaminated by other organisms. For bacteriological examination the vaginal discharge is almost valueless, because it contains, as a rule, such a large number of cocci and other bacteria. Secretions from concealed passages are the ones which are to be employed in a microscopical diagnosis. The urethra should be exposed, carefully cleansed with a mild disinfectant solution, and with the platinum loop the secretion should be withdrawn and placed upon a cover-glass; if there is no urethral secretion it may be possible to express a drop from Bartholin's duct. The cervix should always be examined, and to this end the Sims posture should be employed. Secretions obtained directly from the cervical canal are the most reliable, for when gonococci are demonstrated in them there is no longer any doubt as to the diagnosis.

For clinical purposes methylene-blue solution is a practical and easily manipulated staining fluid. The secretion may be spread out on the cover-glass or on a slide, the latter being usually the better. If it is very small in amount or rather thick and viscid, it may be diluted slightly with a drop of normal salt solution. After spreading it evenly, it is dried by passing it a few times over the flame of an alcohol-lamp or gas-burner. Methylene-blue solution is then dropped upon the slide and allowed to remain for from one-half to one minute, and is then carefully washed off in running water and dried with bibulous paper. It is not necessary to protect the stained area with a cover-glass, for it may be inspected

directly either with a high-power or (which is always preferable) with a  $\frac{1}{12}$  oil-immersion lens.

To be certain of the diagnosis, the gonococci must be found inside of the pus-cells. While the presence of typical biscuit-shaped cocci in pairs free in the secretion without the association of other bacteria is very significant, it is nevertheless unsafe to make a positive diagnosis. One should never be content with one search, for gonococci may be found in a certain number of cases only after repeated examination. In one instance at least twelve negative examinations were made on different days before the gonococci were at last found.

In some instances in which the gonococci have not been found even after repeated examination the symptoms have been so characteristic that a tentative diagnosis of gonorrhœa has been personally made under the assumption that the micro-organisms were concealed. John G. Clark (*Amer. Jour. Med. Sci.*, Apr., 1900).

### HAIR. CARE OF THE.

In serious illness, the physician should vigorously oppose cutting off the hair, particularly in women, as the advantages are slight and the risk of unpleasant consequences great. The hair should be combed and brushed daily, unmindful of the amount of hair falling out, and once in two to four weeks the hair should be washed with the ordinary tincture of green soap. Once or twice a week it is well to rub into the scalp a pomade of precipitated sulphur of the strength of 1 drachm to the ounce of cold cream. The present custom of abandoning the use of pomades and wetting the hair is believed to be responsible for much of the prevalent baldness. If the head is brushed night and morning, and a little pomade,

not liable to become rancid, is rubbed in, there will be less baldness. (G. T. Jackson (*Med. News*, Mar. 24, 1900).

### LARGIN IN DISEASES OF THE EYE.

For several months largin has been personally employed rather extensively in the treatment of superficial eye disorders. The preliminary trials were made with a 3-per-cent. watery solution, but that was eventually replaced by a saturated 10-per-cent. solution; the remedy was also used as a powder in some cases, such as phlyctenulæ of the conjunctiva. For the most part the remedy was painted over the exposed palpebral conjunctiva once or twice a day. The conclusions reached are that the application of largin, even in concentrated form, is painless, but, when prolonged beyond a few weeks, may stain the conjunctiva. It acts well in blepharconjunctivitis, and in some cases of dacryocystitis. It is an efficient substitute for silver nitrate in any of the conjunctival inflammations associated with the Koch-Weeks bacillus, such as acute infectious ophthalmia and acute or subacute trachoma. It acts admirably as a temporary remedy after any of the operations commonly practiced for the relief of chronic trachoma. In gonorrhœal ophthalmia, on the contrary, it is distinctly inferior both to protargol and to silver nitrate. In diplobacillary conjunctivitis, too, it does not succeed so well as zinc sulphate. Sydney Stephenson (*Brit. Med. Jour.*, Mar. 17, 1900).

### MASSAGE, OCULAR.

A system of eye-massage claiming to ameliorate and cure near-sightedness has been successfully used by Professor Dion, of Paris. The Dion method is not practiced with the hand or fingers, but by a specially constructed scientific instrument designed to give a graded amount of pressure on the eyeball, alternating

with relaxation. This instrument resembles a large trial-frame with two sliding cylinders extending forward, between which is a dial registering the position of the cylinders, or, when adjusted, the amount of pressure upon the eyes. The pressure is regulated by a thumb-screw. The instrument is carefully adjusted so that the pressure is made in the line of the visual axis upon the closed eyelids. When it is in perfect position the treatment is not painful, although generally attended by an appearance of lights before the eyes, varying in color, more often white; but sometimes red, yellow, green, or violet. At times there will be circles of light, stars, and checker-board effects, but they all soon pass away, leaving no discomfort whatever. The treatment lasts about three minutes.

The first intention of the originator of this method was to treat myopia only; but he now uses it in all cases having defective vision. Personal experience with this method has not been extensive, but the results obtained have been very gratifying. H. Wells Woodward (*Jour. of Ophthal., Otol., and Laryn.*, Jan., 1900).

### MYOCARDITIS IN CHILDHOOD.

**Diagnosis.**—If one cannot make a positive diagnosis of myocarditis during life, one may suspect, in a great many cases, the presence of myocarditic changes in the face of certain symptoms. If the fatal cases have baffled the methods of recognition, there are a large number left in which certain symptoms of cardiac weakness should put the physician on his guard.

If, in the course of an infectious disease, there are attacks of faintness, pallor, vomiting, disturbed and very irregular heart action, a persistent distortion of the respiration and pulse-ratio as in adherent pericardium, they are certainly signifi-



cant, especially if these attacks have a tendency to recur. If examination of the heart shows extreme weakness of the apex-beat, weakness of the first sound or disappearance of its muscular quality, greater intensity of the second sound at the apex, with intensification of the second sound at the pulmonic orifice, one certainly in these has danger-signals of greatest moment. If, in addition, as in pertussis, there are other signs of cardiac insufficiency, such as a slight systolic blow at the apex, oedema of the face and extremities, pallor and cyanosis, disinclination to exertion, constant drowsiness, one should entertain the possible existence of serious degenerative changes in the heart-muscle. Henry Koplik (*Med. News*, Mar. 31, 1900).

### PERICARDIAL SAC, A METHOD OF OPENING.

The heart and pericardium may perhaps more frequently and with greater confidence be subjected to surgical treatment. The operation of opening the pericardial sac is perfectly easy to accomplish in the following way: 1. An incision of about three inches in length with its upper end at the costo-xiphoid angle is made along the lower edge of the seventh left costal cartilage; the latter is exposed by separating the abdominal muscles from it; the cartilage can then be pulled somewhat outward and upward, when the fibres of the diaphragm become visible, together with the cellular interval between its attachments to the cartilage and to the xiphoid appendix. 2. This cellular interval is enlarged by cutting or tearing through the muscle of the diaphragm as far as may be necessary, when a mass of fat is usually seen just above the diaphragm, in the space between the pericardium behind, the sternum in front, and the diaphragm below.

3. This fat, together with the diaphragm, is pulled downward, when the pericardium presents itself and can be incised or opened up with forceps at its lowest part in front, and, a large hole being made, a finger inserted can explore the heart over its whole extent and back and front, nearly as far as its extreme base. During the operation the peritoneum may, to a slight extent, be exposed as it sweeps downward from the undersurface of the diaphragm. It is not injured, but is pushed aside as is done in performing a suprapubic cystotomy. The superior epigastric artery is not wounded, but can be kept well inside, toward the middle line, on separating the tissues after cutting through the attachment of the abdominal muscles to the seventh cartilage.

The advantages of the method appear to be: 1. The pleural cavity cannot be injured, as it is far away in the normal arrangement of the organs, and would be still further removed in pericardial distension. It would seem that the method described is the only sure way of entering the pericardium without wounding the pleura, for the latter frequently covers the fifth and sixth intercostal spaces, even up to the sternum. 2. Drainage is from the most dependent part of the sac, when the patient is half-propped up, and is through a large opening not bounded by cartilage or sternum. 3. Great ease is afforded for the exploration and cleansing of the heart, both back and front, to its extreme limits.

Although the above operation is easy in a child or in an adult with flexible cartilages and ribs, it would appear sometimes necessary, when such is not the case, to remove two inches of the seventh cartilage after the first incision. In other respects the stages of the operation are the same. Cyril Ogle and Herbert Alingham (*Lancet*, Mar. 10, 1900).

**PHOSPHATURIA.**

The clinical importance of phosphaturia varies according to the chemical variety which the phosphorus presents in the urine. The temporary variety where the phosphatic salts are amorphous is not of present importance, nor is the local disorder which results in the production of the triple form of deposit; but the third variety, in which the urine contains a deposit amounting, it may be, to a third or more of its whole bulk of stellar crystals of phosphate of lime, is full of interest, not only because it is little understood, but also because it is rare and not infrequently fatal. In cases of this type the phosphates are present permanently in excess, but periodically the daily average of the amorphous salts is increased by a more or less copious shower of stellar crystals. The patient complains of thirst, polyuria, and languor. In cases where there is an increase of the urea as well as of the phosphorus, emaciation may become a feature. The urine is of low specific gravity and contains neither albumin nor, until the later stages, sugar; often not then. This form of phosphaturia is usually met with either in young adults of neurotic heredity or in men at middle life who have lived freely, curtailed themselves of the requisite amount of sleep and relaxation, and pursued brain-work under conditions where exercise was neglected and open air treated as a luxury. The disease may run a course symptomatically resembling diabetes mellitus, but without sugar in the urine; or it may alternate with true diabetes, there being sometimes an excess of phosphates and no sugar, and at others sugar, but no remarkable excess of phosphates. The initial polyuria may excite suspicion in the patient's mind and lead him to see his medical adviser; but, if the case be one in which no sugar is found on appli-

cation of the usual tests, it is apt to be looked upon as trifling and as wholly explained by a passing condition of nerve or digestive disturbance. Especially is this likely to happen if the urine chanced to be examined at a time when the phosphates are only present in the amorphous form. As times goes on, the patient's thirst increases, he is conscious of progressive failure of his general vigor, and not infrequently he is annoyed and puzzled by an unreasonable irritability of temper, which is new to him. Neuralgia is a source of much misery in some cases, and may attack any nerve, but is specially prone to invade the branches of the trigeminal or facial; in others, the prevailing discomfort is a liability to recurring attacks of unaccountable drowsiness which no effort of will-power can shake off. When emaciation ensues there is always risk of the onset of phthisis. Guthrie Rankin (Lancet, Mar. 24, 1900).

**PNEUMONIA, ACUTE.**

**Treatment.**—It is of immense importance for the patient to have an ample supply of fresh air; and the more sunshine, the better. The fear of "fresh cold" one often hears of is overdone, and is frequently a source of great danger to the patient. A draught is less to be dreaded than the close, stifling apartment in which the patient is frequently confined. The dietary should be that of fever, simple nutritious fluid food being given. In some instances alcoholic stimulation will be found unnecessary throughout. In most cases, after the first two or three days, alcoholic stimulants will be found helpful. Of these brandy or whisky, exhibited in milk,—often best of all in boiled dilute milk,—is most serviceable, or the spirit may be given in egg-flip, or along with tea or coffee. In some, champagne seems to act

more rapidly and efficiently, and may be more grateful to the patient. Alcohol may not be required at all. In many simple cases a teaspoonful or two every six hours will be sufficient. When the condition is graver, the same quantity may be desirable every two hours, or even more frequently. The index as to the need of alcohol, and also as to the quantity, is found in the state of the heart and circulation. It is when the full, bounding pulse of the first day or two is replaced by the soft and, it may be, dicrotic beat that stimulants are indicated.

In slighter attacks there may be no call for special treatment of the heart and circulation. In the great majority of cases there is no such need during the first few days. It is when the circulation shows signs of embarrassment, as indicated by the changes in the pulse just referred to, that benefit may be expected from cardiac tonics. Of these the most generally useful are digitalis and strophanthus. Either may be conveniently exhibited in 10-minim doses of the corresponding tincture, three to six times daily. In some cases they are advantageously combined with strychnine. If the circulatory difficulty becomes more urgent, subcutaneous injections of  $\frac{1}{100}$  grain of strophanthine may be used. Or more diffusible stimulants—such as ether, camphor, or caffeine—may be injected subcutaneously. In presence of conspicuous dyspnoea, it has been advised to fall back on the inhalation of oxygen.

Pain should be relieved as quickly as possible by warm poultices or fomentations, reaching well around the chest. In the greater number of instances they are to be preferred to the ice-bag or cold-water coil. In full-bodied, vigorous persons it is sometimes serviceable to fall back on local blood-letting, either by leeching or cupping. Relief from pain

and irritation is often best effected by the use of morphine.

To prevent restlessness and sleeplessness, or, at least, to minimize them to a great extent, more careful attention should be paid to the coolness of the sick-room, free access of fresh air, and lightness of bedclothing. Restlessness may be further combated by cold sponging or by the careful use of the wet pack.

Morphine may exert the needful influence. Or chloral, 15 to 20 grains, combined with toddy, may insure a few hours of quiet sleep. Similarly, sulphonal, trioxal, or paraldehyde may, by inducing sleep, determine the tide in favor of the patient. Antipyretics in the stricter sense are rarely needed. A simple diaphoretic, such as liquor ammonii acetatis, may be exhibited frequently. If more cogent antipyretics are demanded, quinine in one or other form is the most trustworthy. The cold bath may be practically discounted.

During convalescence various tonics may be found of service, notably strychnine, iron, quinine, the hypophosphites, and codliver-oil. At this stage, too, alcohol is often helpful. Claret, hock, burgundy, or even light beer may be recommended.

When convalescence is fairly established it is a mistake to prolong unduly the patient's confinement. On the contrary, much may be gained by the adoption of open-air measures. R. W. Philip (Practitioner, Mar., 1900).

## PROCTOLOGY, THE NEW.

The technique of rectal examinations by the newer methods may be described briefly as follows:—

Position of the patient is the first step in a physical exploration of the upper rectum. The Martin posture, which is a modified knee-chest, can be obtained on



one chair only, and that is the Yale with a new attachment. By this machine the patient can be put into the proper position without any effort on his part after he has assumed his place in the chair. An illuminating apparatus attached to the chair is another necessity, and must be adjusted with great exactness, in order to focus the light with that degree of perfection so necessary for work in all cavities.

The proctoscope is the third utensil requisite for this work. Through this tube the surgeon can get a perfect view of the ballooned gut and sigmoid flexure, and is always able to note the rectal valves and any pathological condition that may be present. Through the proctoscope operations are performed, such as the removal of polypi, treatment for an ulcer, valvotomy, etc. It is the proctoscope that has made it possible for the proctologist to cure chronic diarrhoea and constipation, when these conditions depend upon local issues.

A knowledge of the rectal valves furnishes the key to success in the treatment of many cases of obstipation, and is a prerequisite to an understanding of rectal stricture's occurring in the upper rectum.

The rectal valve is constant, and, if normal, it is susceptible to temporary effacement by means of the bent probe; if, however, the structure is hypertrophied, its free border, which spans more than half the lumen, is rigid and fixed, being thus maliciously obstructive. The fibrous tissue which forms the basis of the valve becomes tendinous at the free margin, and is very tough. William M. Beach (Penna. Med. Jour., Mar., 1900).

### RABIES IN MAN.

**Symptoms.**—Three stages in the evolution of rabies in man may be recognized: (1) a prodromal period: (2) a period

where the disease is fully established; and (3) the third, or paralytic, stage.

The most important of the prodromal symptoms are a general malaise and an alteration in the mental state of the individual, leading him to become melancholy and tending to make him shun the society of his fellow-creatures. The patient also suffers from sleeplessness, and when asleep his rest is disturbed by nightmares, and it is said that often the nightmare reproduces the scenes of the dog's biting him. It is stated that even in cases where persons have been bitten by dogs which were not known to be rabid, although they really were rabid, that during the prodromal period following the bite the patient suffers from a peculiar apprehension and vague dread. Other prodromal symptoms are a certain amount of precordial distress and also slight dyspnoea. The prodromal period is said to last from ten to fifteen days.

The second stage of the malady is generally ushered in suddenly with dyspnoea and it may occur without any preceding prodromal symptoms. The dyspnoea is severe, and very soon the characteristic spasm on attempt to swallow is seen. The patient on attempting to swallow is seized at first with a spasmodic convulsion, which involves simply the muscles of the pharynx, causing expulsion of the liquid or the substance through the mouth. Very soon, however, the spasm, on the attempt to drink, spreads to other muscular structures, and not only are the muscles of the pharynx involved, but those also of the head and neck and ultimately those of the trunk and even of the limbs. The convulsive seizures are, however, not limited to the swallowing movements, but the respiration becomes jerky, being interrupted by irregular contractions of the diaphragm, producing a sudden and well-known gasp. It is this jerk-

ing respiration which has given rise to the popular idea that the sufferer barks. At this time the special senses become more acute and the period very soon arrives at which the convulsions are produced at the mere sight of objects or the hearing of sudden noises, or even a draught of air touching the bedclothes or skin. During the whole of this period the apprehension that existed during the prodromal stage becomes further increased, and the patient dreads all the things which will lead to the production of a spasm, such as a sight of fluid or the approach of bystanders to his bedside. At this stage furious excitement, or even actual mania, may develop. Fever is present and the temperature may even reach as high a point as 104° F. Death may occur from asphyxia during one of the convulsive seizures, but often the malady passes into the third, or paralytic, stage.

The duration of the disease is usually from three to four days from its onset and some two to three days after the first convulsion. In some cases the first and second stages of the malady are absent, and the disease exists in the human being in the third, or paralytic, form. Under these circumstances, with or without prodromal symptoms, a rapidly-increasing paralysis—involving first the extremities, then the trunk, and finally the respiratory muscles—occurs. John Rose Bradford (*Lancet*, Mar. 17, 1900).

#### RESUSCITATION OF APPARENTLY-DEAD NEWBORN.

It is personally advised in asphyctic conditions to irritate the epiglottis by tickling it. This is very easily done by moving the index finger to and fro over the epiglottis. This method is nothing but a modification of Laborde's.

But there are more reasons in favor of the former. It takes no time to learn it;

it takes but a few moments to perform it; it is effective and there is no danger connected with it. Therefore tickling the epiglottis is recommended in all cases of deep asphyxia. M. Freudenthal (*Phila. Med. Jour.*, Mar. 10, 1900).

#### SEASICKNESS.

**Treatment.**—The hypodermic injection of atropine and strychnine, as recommended by Dr. W. W. Skinner, has been personally tried in 47 cases, with complete success in 40, and with partial success in the remaining cases. The doses used were  $\frac{1}{60}$  to  $\frac{1}{30}$  grain of strychnine sulphate, and  $\frac{1}{150}$  grain of atropine sulphate, dissolved in from 10 to 15 minims of peppermint-water. When necessary, the dose was repeated in a few hours or the next day. The injection should be given at the very onset of nausea or discomfort or as a prophylactic in very susceptible persons. The symptoms of seasickness being those of circulatory depression and cerebral anæmia, this stimulating treatment is preferable to treatment by sedative drugs, as it places the patient in the best position to avail himself of the natural prophylactics, namely: food and exercise. Percy MacDougall (*Brit. Med. Jour.*, Mar. 24, 1900).

#### SUPRARENAL EXTRACT IN HAY FEVER AND ASTHMA.

In hay fever suprarenal extract is a most useful remedy. It will abort ordinary acute catarrh. Used internally it has a marked effect in lessening the symptoms of hay fever and gives marked relief to the patient in twenty-four to forty-eight hours. When 5 grains are given every hour, distinct local effects are soon noticed. In certain patients some vertigo is noticed, the heart becomes a little more rapid than usual, and there is some nervous excitement, but nothing that need

cause any worry. The only dangers of the remedy are theoretic, and are not seen in practice. There is but one possible inconvenience that can be foreseen, which is that, if the drug should be used constantly and persistently, the lessening of the blood-supply to the nasal tissues may lead to atrophy. The extract will abort asthmatic tendencies and will frequently arrest asthmatic attacks, although it will not affect asthma when the affection is fully developed; where, as is often the case, the asthma is due to congestion of the nasal passages, it will surely be benefited. Asthma on a gouty or rheumatic basis will also be benefited. When the asthmatic attacks are associated with an atheromatous condition, or are caused by interstitial nephritis, they will not be benefited. The extract may be applied on pledgets of cotton or by the spray every two hours until relief comes. The application or spray may be repeated whenever the symptoms return. H. Beaman Douglas (Med. News, Mar. 24, 1900).

#### **SUPRARENAL EXTRACT IN URETHRAL DISEASE.**

Personal knowledge in the treatment of diseases of the urethra with the suprarenal extract is based on an experience extending over three years, and comprising two hundred cases. The blanching of the urethra produced by this remedy can be readily observed with the endoscope. The thick, unfiltered solution has acted much better than the filtered solution of the extract more commonly used. It has been found more potent when allowed to stand for two hours after its preparation, before using it. A 10-per-cent. solution has ordinarily been employed, being injected with a syringe. In the gradual dilatation of strictures the extract is very useful, as it relieves the muscular spasm. The effect of the rem-

edy is quite transient; so that, if more than two sounds are to be passed at one sitting, another application of the extract should be made. By its action on muscular tissue the extract will sometimes sensibly increase the calibre of a stricture. In several cases of meatotomy a 12-per-cent. solution of the filtered extract was injected into the tissues. In four cases of acute gonorrhœa, in which there was severe smarting at urination, the injection of the unfiltered solution gave immediate and decided relief. The unfiltered solution has also proved to be a grateful application in most cases of inflammation of the urethra and when there are ulcers in this canal. J. A. Moore (Med. Rec., Mar. 17, 1900).

#### **SUPRARENAL SOLUTIONS, PRESERVATION OF.**

The method for preservation of suprarenal solutions employed for over a year now in Buffalo with excellent satisfaction is as follows: Seven and a half grains of the extract of suprarenal capsule is rubbed to a paste, then water is added gradually until there is a solution of 1 ounce. This is then heated for some time to 160° F., water being constantly added as the solution evaporates so as to keep the amount of liquid always up to 1 ounce. Fifteen grains of boric acid are then added, and the solution is ready. It will keep for weeks. The suprarenal extract is used in the eye in the shape of small wafers. To make these, the extract is rubbed up into a paste and then mucilage added to give it consistency. These feel somewhat rough, but are unirritating when moistened. The addition of formalin, 1 to 10,000, or the employment of a concentrated extract in glycerin diluted as required are good methods for preserving the substance. But both the formalin and the glycerin have proved



irritating to some eyes. Lucien Howe (Med. News, Mar. 24, 1900).

### TUBERCULOSIS.

**Treatment.** — From acquired practical and theoretical knowledge of facts, it has been found that the best method to treat tuberculosis and other forms of lung disease is in specially designed solariums at home or at a sanitarium where violet lights can be generated, according to the requirements of each individual case, and specially treated upon principles according to the condition of each case.

From all the reports and researches to the present day by all the expert men in this branch of study, there is but one concert of opinion, for the successful treatment of tuberculosis: hygiene, food, and sunlight. J. Mount Bleyer (N. Y. Med. Times, Apr., 1900).

### TUBERCULOSIS, GENITAL.

**Diagnosis.**—Tuberculosis of the vulva and vagina may be confounded with several affections, but in doubtful cases the microscope will make clear the matter.

Miliary tubercles of the vagina resemble the granulations of a granular vaginitis. The latter, however, is so frequently associated with pregnancy or with gonorrhœa that the history will often be of service.

Papillary and ulcerated syphilides will disappear under antisyphilitic treatment.

Herpetic eruptions around the vulva generally occur as small cysts, and appear about the menstrual period and soon disappear again. Tuberculous ulcers may be mistaken for hard or soft chancres, but the history, if taken into account, together with the character of the ulceration, should prevent any mistake. Here, again, the microscope will help in the diagnosis.

Carcinomatous ulcers can be distin-

guished from tuberculous ulcerations by microscopical examination.

If no tubercle bacilli can be found in the secretions, the uterus should be curetted and the scrapings hardened in alcohol. Sections can afterward be made for microscopical examination.

It is practically impossible to diagnose tuberculosis of the tubes and ovaries by bimanual palpation alone. The thickened condition of the uterine end of the tube, a sign to which Hegar attached so much importance, can occur in cases of pyosalpinx without tuberculosis.

Small myomata may also be easily mistaken for tuberculous masses. The association, however, of a tumor in the tube with the ill-defined anomalous mass in the abdominal cavity should arouse suspicion of abdominal tuberculosis. In other words, if one would diagnose tuberculous peritonitis, one must suspect every mass connected with the tubes and ovaries to be tuberculous.

Under the head of cases of unsuspected genital tuberculosis Williams mentions five cases in which on macroscopical examination the diagnosis of ordinary catarrhal or purulent salpingitis had been made. Hunter Robb (Cleveland Med. Gaz., Mar., 1900).

### UROTROPIN.

There is a wide field of usefulness for urotropin, both in the treatment of cystitis and other conditions liable to complicate enteric fever, and as a preventive against the dissemination of typhoid bacilli by the urine. All patients suffering from enteric fever should receive 10 grains of urotropin three times a day from the end of the second week on during convalescence. The drug is also useful in the cystitis accompanying enlarged prostate and stone, in bacteriuria, some cases of nocturnal enuresis in children,

and as a preparation for operations on the urinary tract. Cammidge (Brit. Med. Jour., Mar. 17, 1900).

### UTERUS, CANCEROUS, REMOVAL OF, BY THE VAGINA.

Personal ideas upon the subject of the extirpation of the cancerous uterus (cervical cancer) have undergone considerable change within the past year. Glandular metastases, which play such an important part in the extension of mammary cancer, are relatively unimportant, and, as a rule, only observed in the latest stages of uterine cancer.

More careful histological studies show that the uterine cancer extends progressively through the tissues from its cervical focus.

In order to give the diseased cervix the widest possible berth in the direction outward into the bases of the broad ligaments, catheterizing the ureters is necessary in every case as a preliminary to the radical operation.

After this most important preliminary and after a thorough curettage of the diseased area, the vagina is cut through on all sides and is stripped loose from the bladder, so as to expose the vesico-uterine peritoneum, and to open the peritoneum as widely as possible at this point. If the bladder is diseased, the base of it may be cut off and left sticking to the cervix.

The peritoneum is now also opened posteriorly into the recto-uterine pouch so that the uterus remains attached by its broad ligaments alone.

A gauze pack is then put into the pelvis behind the uterus and the cervix is thrust back against it, while the anterior uterine wall is caught with museau forceps step by step and drawn down through the anterior incision until the fundus appears at the vaginal outlet.

The next step is to bisect the uterus

from above downward. The uterus is now removed in the following manner: One-half of the body of the uterus is caught by a stout museau forceps, while the other half is allowed to retract within the vagina; then, catching the cervix of the same side with the forceps, the body is completely severed from the cervix by dividing from within outward. As soon as the division is completed, the uterine vessels are clamped in the exposed cellular tissue, and the detached body is now pulled farther out and the round ligament clamped, and lastly the uterine cornu. In this way one quadrant of the uterus is removed. The body of the uterus on the opposite side is next removed in like manner.

Ligatures are then applied in place of the clamps. The ovaries and tubes are removed after the body of the uterus. The removal of the body of the uterus in this way affords so much room that it now becomes an easy matter to take out the cervix on the side which is least implicated, under all circumstances giving it the widest possible berth, and keeping the rigid catheterized ureter under touch all the time during the enucleation.

The steps of the operation as thus far described may be looked upon as more or less preliminary; three-fourths of the uterus has been removed, and the remaining quadrant, that half of the cervix which is on the side where the infiltration of the broad ligament is most marked, now remains to be extirpated also, completing the operation. All the skill of the operator must be concentrated upon this last step, upon securing the most thorough, wide extirpation of this remaining piece. The operator now holds in the grasp of his forceps a small nodule, one-half of the cervix, and his desire is to get it out with perfect control of the vessels giving it the widest possible berth

This may be done in some cases by ligature, but will be better done in other cases by cautery clamps, such as have been devised by Dr. Skene, of Brooklyn, or by igni-extirpation as extensively practiced by Mackenrodt, of Berlin.

If the ureter lies clearly beyond the diseased area and is unaffected, it may be dissected out and left intact; in many of these cases, however, the operator must not hesitate a moment in cutting off the ureter above the diseased area, and proceeding with the wide enucleation of the nodule as if the ureter did not exist, after the enucleation is over, the ureter may then be readily turned into the denuded bladder and stitched there.

The anterior and posterior peritoneal surfaces are then drawn down and attached to the vagina, and are again sutured together in the middle line, so as to leave but two small openings up into the pelvis, which are loosely stuffed with gauze. Howard A. Kelly (Bull. Johns Hopkins Hosp., Mar., 1900).

### VOMITING, SURGICAL ASPECTS OF.

A somewhat careful consideration of the surgical aspects of vomiting leads to the conclusion that:—

1. Feculent or stercoraceous vomiting occurs more commonly than is supposed in cases in which no mortal disease exists. The occurrence of feculent vomiting

must, of necessity, be a grave symptom, but it is not always followed by death, even though nothing be done for the patient from a surgical point of view.

2. That in certain cases the vomiting is curative, inasmuch as it empties the bowel and stomach of accumulated contents which for the time being are unable to find their way downward in the normal way.

The question then arises as to the possibility of determining in any case whether the feculent vomiting is certain to end in death if the patient be unrelieved by radical measures, or whether the vomiting may possibly prove curative. On this point it is possible to arrive at an opinion which practically depends for its value upon one sign: this is, the condition of the belly with regard to distension. It may be with certainty concluded that, if, with the continuance of the vomiting, there is persistent increase of abdominal distension, the condition is a mortal one unless radically relieved. If, on the other hand, with the continuance of the vomiting there is no increase of distension, there is reason to hope that active interference is unnecessary and that recovery may follow "the casting off of the complaint," effected by the cleaning out of the stomach and intestine in the upward way. William H. Bennett (Brit. Med. Jour., Mar. 24, 1900).

## New Books Received.

The editor begs to acknowledge, with thanks, the receipt of the following books:—

**DISEASES OF THE NOSE AND THROAT.** By J. Price-Brown, M.B., L.R.C.P.E. Illustrated with 159 Engravings, including 6 Full-Page Color-plates and 9 Color-cuts in the Text, many of them Original. 6 Plates. 800 Pages xvi+470. Extra Cloth, \$3.50, net. The F. A. Davis Co., Publishers, 1914-16 Cherry Street, Philadelphia.

**LECTURES TO THE FUTURE IN THEIR MEDICO-LEGAL ASPECT.** By S. Bandry, M.D. Translated from the original by Alfred James Ostheimer, Jr., M.D., of Philadelphia. Revised and edited by Charles A. Oliver, A.M., M.D. With an Adaptation of the Medico-legal Chapter to the Courts of the United States of America, by Charles Sinkler, Esq., Member of the Phila-



delphia Bar.  $5\frac{5}{8} \times 7\frac{7}{8}$  inches. Pages, x-161. Extra Cloth, \$1.00, net. The F. A. Davis Co., Publishers, 1914-16 Cherry Street, Philadelphia.

THE ANATOMY OF THE BRAIN. A Text-book for Medical Students. By Richard H. Whitehead, M.D. Illustrated with 41 Engravings.  $6\frac{1}{4} \times 9\frac{1}{2}$  inches. Pages, v-96. Extra Vellum Cloth, \$1.00, net. The F. A. Davis Co., Publishers, 1914-16 Cherry Street, Philadelphia.

## Monographs Received.

The editor begs to acknowledge, with thanks, the receipt of the following monographs:—

Studies on Internal Antisepsis. By Edwin Klebs, M.D., New York, 1900.—Report and Exhibition of a Case of Rheumatoid Arthritis Treated by Hot Air. By Henry Tucker, M.D., '99.—Stricture of the Esophagus and Electrolysis by a New Esophageal Electrode. By Charles D. Aaron, M.D., Detroit, Mich., '99.—Evidence that Bovine Tuberculosis is Communicable to Man by Direct Contact or by Food-infection. By John A. Robison, M.D., Chicago, '99.—A Case of Gastric Tetany, with an Account of the Microscopic Appearances Found in the Medulla and Spinal Cord. By Walter K. Hunter, M.D., Glasgow, '99.—Imperfect or Deficient Urinary Excretion as Observed in Connection with Certain Diseases of the Skin. By L. Duncan Bulkley, M.D., '99.—How Far Has Specialism Benefited the Ordinary Practice of Medicine? By L. Duncan Bulkley, M.D., New York, '99.—A Preliminary Investigation of the Theory of the Inoculation of Malarial Fever Through the Agency of Mosquitoes, with Anatomy of Mosquito. By Albert Woldert, M.D., Philadelphia, 1900.—The Diagnosis of Gastric Ulcer, with Report of Cases. By Frank H. Murdoch, M.D., Pittsburgh, Pa., 1900.—Cases of Cholecystotomy. By Edgar Garceau, M.D., Boston, 1900.—A Case of Extraperitoneal Nephro-Ureterectomy for Tubercular Disease. By Edgar Garceau, M.D., Boston, '99.—Morphinism Among Physicians. By T. D. Crothers, M.D., Hartford, Conn., '99.—Practical Use of Radiograph and Fluoroscope in Diseases of the Lungs. By T. Mellor Tyson, M.D., and William S. Newcomet, M.D., Philadelphia, 1900.—The Suprarenal Bodies; Some Remarks upon their Physiology and Therapy, with Special Reference to Rhinology. By James E. Newcomb, M.D., New York, '99.—Adeno-carcinoma of the Nose. Report of a Case. By James E. Newcomb, M.D., '99.—Vaginal Hysterectomy—Its Indications and Advantages. By James N. Ellis, M.D., Atlanta, Ga., '99.—The Technique of Vaginal Hysterectomy, with Especial Reference to Consecutive Clamp Hæmostasis. By James N. Ellis, M.D., Atlanta, Ga., '99.—The Lebbek or Siris Tree. U. S. Department of Agriculture, Washington, D. C., 1900.—Red Clover Seed. U. S. Department of Agriculture, Washington, D. C., 1900.—Notes upon Dairying in California and the Export of California Butter to the Orient. By R. A. Pearson, M.S. U. S. Department of Agriculture, Washington, D. C., 1900.—The Apple and How to Grow It. By G. B. Brackett. U. S. Department of Agriculture, Washington, D. C., 1900.—Cowpeas and Corn for Silage and Fodder. U. S. Department of Agriculture, Washington, D. C., 1900.—Egyptian Cotton in the United States. U. S. Department of Agriculture, Washington, D. C., 1900.—Progress of Experiments in Forage Crops and Range Improvements at Abilene, Tex. U. S. Department of Agriculture, Washington, D. C., '99.—Electrolysis in Granular Disease of the Eyelids. By T. D. Myers, Philadelphia, 1900.—Algunos Apuntes sobre el Proto-medico. Por el Doctor Manuel S. Soriano, Mexico, '99.—Lipoma Gigante en el Cuello. Por el Dr. D. Juan de la Sota y Lastra, Madrid, '99.—Our Trade with Japan, China, and Hongkong. 1889-99. By Frank H. Hitchcock. U. S. Department of Agriculture, 1900.—Some Miscellaneous Results of the Work of the Division of Entomology. IV. Prepared under the Direction of L. O. Howard. U. S. Department of Agriculture, 1900.—Irrigation in the Rocky-Mountain States. By J. C. Ulrich. U. S. Department of Agriculture, '99.—Farmers' Reading Courses. U. S. Department of Agriculture, 1900.—Rice Culture in the United States. By Dr. S. A. Knapp. U. S. Department of Agriculture, 1900.—Russian Cereals Adapted for Cultivation in the United States. By Mark Alfred Carleton. U. S. Department of Agriculture, 1900.

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## Cyclopædia of the Year's literature.

### ENDOCARDITIS.

**Etiology.**—F. A. Packard<sup>1</sup> notes five cases which he believes to have been plain cases of acute tonsillitis and pharyngitis, having no connection with rheumatism, and in which endocarditis arose as a direct consequence either of infection of

the endocardium by micro-organisms, which gained entrance by way of the tonsils, or of structural change in the mitral leaflets, brought about by coagulation-

<sup>1</sup> Amer. Jour. Med. Sci., Jan., 1900.



necrosis or other result of the chemico-vital action of toxins produced by micro-organisms present in the throat and absorbed from the inflamed tissues. In support of the former theory of their causation, the fatal case of tonsillitis reported by Charrin<sup>2</sup> is referred to, where, at autopsy, the staphylococcus aureus was found both in the tonsil and in the vegetations upon the valves of the pulmonary artery.

Tonsillitis as a cause of endocarditis is but rarely mentioned in text-books and monographs upon medicine or diagnosis. Most of the standard works of reference and text-books speak of tonsillitis as one of the rheumatic series, and note the possible association of any two of the series apart from any articular manifestations. This view is not satisfactory, and is based upon the theoretical assumption of a specific poison of rheumatism which can attack various tissues. It would seem far more rational to look upon tonsillitis as an infection (which it undoubtedly is), and to view the endocarditis or the arthritis alone or in combination as the direct and immediate result of the entrance of micro-organisms through, or absorption of toxins from, the tonsil or pharynx.

Karl von Ruck<sup>3</sup> states that acute endocarditis may occur in the course of phthisis. It is most frequent in acute miliary tuberculosis, but a true diagnosis of its tubercular character is impossible during the life of the patient. Pericarditis and endocarditis are usually fatal complications in phthisis, and their occurrence becomes the more rapidly fatal, the more advanced the patient appears to be in the lung affection.

Valvular disease existing prior to the advent of pulmonary tuberculosis has not appeared to have an unfavorable influence upon the course of the lung disease.

Quite a number of such cases have been noted, but in all of them there was a fair degree of compensatory hypertrophy, whereas in endocarditis which develops in the course of phthisis sufficient compensatory hypertrophy does not readily occur, especially if the patient is already much exhausted from the lung disease. On the other hand, the old notion that valvular disease of the left heart is a protection against pulmonary tuberculosis is certainly erroneous.

**Treatment.**—In order to prevent valvular disease in acute rheumatism, Richard Caton,<sup>4</sup> fifteen years ago, decided upon a definite method, which has been followed ever since, and has been applied in nearly five hundred cases. These were treated in the ordinary manner by salicylates, cholagogues, and a light diet; the whole body, excepting the head, was clothed in flannel, and the patient kept in bed for some weeks; any lingering pains were dissipated by small blisters locally. The proportion of cases of valvulitis was under 20 per cent. The following signs were considered to indicate affection of the valve: *Assourdissement*, going on to the development of a bruit, usually mitral, mostly systolic, but sometimes presystolic, heard in the axilla, followed by accentuation of the second pulmonary sound; more rarely a diastolic bruit at the aortic cartilage. Treatment consisted in: (1) absolute rest in bed for several weeks; (2) the application of a series of blisters, one at a time, in the course of the first, second, third, and fourth dorsal nerves; after each blister a small poultice was applied; (3) sodium or potassium iodide in 8- or 10-grain doses was given thrice daily; in some

<sup>2</sup> La Semaine Médicale, '97.

<sup>3</sup> Jour. of Tuberculosis, Apr., 1900.

<sup>4</sup> Brit. Med. Jour., Mar. 17, 1900.

cases small doses of mercury. The treatment was of use only if commenced within the first two or three weeks. In long-standing cases it was absolutely useless. Setting aside all cases of slight transitory bruit, all cases of hæmic origin, and all that seemed due merely to a weakened and dilated ventricle, 85 cases remained for treatment. These were divisible into two groups. First, those which on admission into hospital had a bruit, probably, but not certainly, of recent origin. They numbered 54; of these 34 left hospital with hearts apparently sound; while 20 were believed to have valvular disease. Secondly, those in which the bruit and other signs of valvular disease came on in hospital, or in which the onset had been recently observed by the practitioner who sent in the case. They numbered 31; of these 27 left hospital with an apparently sound heart, 3 with valvular disease, and 1 remained under treatment. As far as possible the apparently-cured cases have been kept under observation for months or years. One unsatisfactory point should be noted; if in a case apparently cured rheumatism recurred at an early date, the endocarditis generally recurred also and though sometimes it was again removed by treatment, more frequently it persisted. Personal experience of rheumatic endocarditis shows the two following principles should be strongly insisted upon: First, that every case of acute rheumatism should be regarded not merely and essentially as rheumatism, which is in itself comparatively unimportant, but first and before everything else as a case of impending peril to the heart, endangering the whole future life of the patient. Whenever the heart is sound at the onset the practitioner should examine it daily. Secondly, in all forms of acute endocarditis there is a brief stage during

which, if treatment is begun promptly, the disease is usually curable. In adults this stage probably only lasts two or three weeks; in children it is longer. The proportion of recoveries is larger if the three measures above described are adopted and persevered in for at least six weeks. After disappearance of the bruit and other symptoms, avoidance of all active exertion is desirable for at least two months afterward.

W. H. Thomson<sup>5</sup> thinks that after the beginning of convalescence from a severe rheumatic attack it would be greatly to the future advantage of the patient if he should be kept in bed at least two months, especially in the case of children. Prolonged rest and continued administration of aconite afford the greatest safeguards against the supervention of an irremediably damaged heart.

R. G. Powell<sup>6</sup> considers 99° F. in the mouth or the axilla as a morbid degree of temperature, and taken in association with the history of recent rheumatism or a slight endocarditis it is an absolute sign of the importance of preserving complete rest. Sir William Jenner used to say in the clinical words: "Children do not grow out of heart disease, they grow into it." That statement was mainly founded on the treatment of rheumatic fever in hospitals and especially in children's hospitals, where, at that time particularly, rest, complete rest, for a sufficient length of time, was not observed.

Those two most grave cardiac affections of rheumatic origin, mitral stenosis and aortic regurgitation, are valvular lesions which are scarcely ever met with in primary rheumatic illnesses—they are almost always found in those cases which have left the hospital after a primary at-

<sup>5</sup> *Med. Record*, Mar. 17, 1900.

<sup>6</sup> *Lancet*, Mar. 31, 1900.

tack of acute rheumatism and have returned some months later. These two lesions are the consequences of subsequent slow, deforming valvulitis from strain put upon the valves before they have completely recovered from the primary rheumatic lesion. Primary endocarditis is a curable disease in a large number of cases if taken in time and if the patient is retained at rest for a sufficient time to allow the valve to make recovery before the extra strain or function is put upon it.

It is said that statistics prove that cardiac complications are more frequent in those who are taking the salicylates, and relapses are more to be feared than under the alkaline treatment. Dr. Ewart hit on the fallacy of the inference from these statistics when he remarks upon "the indirect risk that arises that we may be misled into overestimating its antirheumatic powers and relax too early both treatment and diet."

A 15-grain dose is better than a larger dose, but it should be repeated at sufficiently short intervals to get the patient under the influence of the drug. The influence of the drug should be maintained.

In grave forms of endocarditis the opium treatment is of immense value, its object being to cause organic rest by diminishing the rapidity of the pulse and quieting the restlessness and agitation of the patient. All agree on the little value of digitalis in the acute cardiac affections of rheumatism.

In considering the rheumatic heart complications William Ewart<sup>7</sup> states that the occurrence of pericarditis is the exception, and that of myocarditis and dilatation is far from being the rule. Not only is primary valvulitis the prevailing danger, but, as pointed out by Dr. Sanson, valvular disease may often arise sec-

ondarily as a late result of changes which were originally myocardial.

In the general treatment of the acute attack, absolute rest in bed for weeks and a careful graduation of resumed activity are rigid rules.

The characteristic anorexia and failure of excretion pointing to an embarrassment of metabolism are indications for free outlets and carefully measured supplies. Indeed it is a question whether rheumatic arthritis could long co-exist with diarrhoea. A mild cholagogue, diaphoretic, and diuretic action is a recommendation for the salicylates.

Probably the sodium salt of salicylic acid is the best to administer, though the strontium salt is favorably reported upon from America, and should be given in full doses, but in the presence of albuminuria all salicylates should be avoided and salines prescribed.

Whether with or without salicylates, alkalies should never be omitted. The potassium salts are preferable, and the citrate may be largely substituted for the bicarbonate. Both the alkaline and salicylate treatment should be continued with diminishing frequency of administration for two or more weeks after the cessation of joint symptoms, and the urine kept alkaline during convalescence partly through the agency of diet. As the salicylate is diminished, quinine, which may be needed from the first, is added or increased.

The iodides of potassium and of sodium, of undoubted service in acute rheumatoid arthritis, are likely to be useful in some of the "symmetrical" rheumatic cases. Dr. Caton prescribes them in acute rheumatism with repeated vesication over the chest, for the prevention and cure of endocarditis.

<sup>7</sup> Brit. Med. Jour., Mar. 17, 1900.



# ERYSIPELAS.

**Etiology.**—G. E. Pfahler<sup>s</sup> has found diplococci in 8 cases of erysipelas, all occurring at different times. In all but 1 case applications of ichthyol had been made to the inflamed surface, previous to the bacteriological examination. The ichthyol was removed and the inflamed skin and pustules cleansed by repeated swabbings with sterile cotton soaked in ether. In 4 cases in which pustules occurred, cover-glass preparations were made from the pus, which showed diplococci identical in appearance with those found in the cultures made both from the pustules and the blood of the affected part. Cover-glass preparations from the blood of the inflamed skin also showed this same diplococcus in comparatively large numbers.

Spherical cocci, about the size of the pneumococcus, usually occurring in pairs, often singly, and very rarely a chain of four were seen, which was probably an accidental arrangement. As observed in the pus taken directly from the pustules, in the blood of the inflamed part, and in the blood from the rabbit, they were only seen in pairs, and were capsulated. They were found both outside and within the leucocytes. This diplococcus stains readily with aniline gentian-violet and by carbol-fuchsin. It does not stain well with Loeffler's alkaline solution of methylene-blue, and less so with a saturated aqueous solution of methylene-blue, or with Gabet's solution of methyl-blue.

It grows in the presence of oxygen and at the room-temperature, but better at 37° C. (99° F.). It is non-motile. Cultures upon bouillon show a slight cloudiness at the end of 24 hours, which increases from day to day, there being no tendency to clear subsequently.

Glycerin-agar at the end of 24 hours shows minute opaque colonies, pin-point

in size, whitish in color, and sharply defined in outline. After from 5 to 6 days these colonies become about 1 millimetre in diameter, and slightly raised from the surface.

Blood-serum shows a more luxuriant growth. They are of a milk-white color, distinctly outlined, and under a low magnifying power appear smooth. Stroke-cultures show a beaded growth all along the line of inoculation. Gelatin is not liquefied, and there is no evidence of the production of gas. In stick-cultures growth occurs all along the line of inoculation, but apparently ceases after from 24 to 48 hours. There seems to be no radiations and no tendency for the surface-growth to spread. A slight cupping is seen at the top of the puncture after 48 hours. Litmus-milk shows no change in reaction after being in the incubator for 15 days. It does not grow upon potato. After about 8 days new cultures are produced with difficulty. Inoculations were made upon 5 rabbits, each being from a 24-hour pure culture of a different case and the disease was produced in four.

It is believed that this diplococcus is a cause of erysipelas or of a disease which, in the light of our present knowledge, cannot be diagnosed from erysipelas. Koch's postulates have been demonstrated with reference to this organism as follows:—

1. This diplococcus has been found in the diseased tissues of 8 different cases of erysipelas.
2. This organism has been grown in pure culture upon artificial mediums in each case.
3. The disease was produced in 4 rabbits by subcutaneous inoculations.
4. The same organism was obtained

<sup>s</sup> Phila. Med. Jour., Jan. 13, 1900.

from the diseased tissues of the inoculated animals.

W. Respinger<sup>9</sup> remarks that actual extension of erysipelas from one patient to another can usually be traced. The scales of loose epidermis, or epidermis cut from an affected area, the sweat, and even the contents of blebs, as long as they are not purulent, are found to be free from streptococci. Infection proceeds from the discharge of erysipelatous wounds, and these should be treated as other infected wounds, but the patient should not be handled as though he were suffering from a contagious disease.

Otto J. Stein<sup>10</sup> notes a case which demonstrates the importance of nasal inflammations as a cause of some cases of facial erysipelas that have been designated as idiopathic. A patient, 35 years of age, of previously good health excepting a "chronic catarrh of the head," was suddenly taken ill with a temperature of 105° F., full, strong, and rapid pulse, repeated vomiting attacks, and severe headache and pain over the region of the right cheek-bone. On inspection, the right naris was found swelled, of a dusky-red color, and of glazed appearance, filled with a foetid muco-purulent secretion. There was marked tenderness on pressure over the right malar region, and tapping on the second molar tooth on the same side elicited painful sensations. The nostrils were flushed with an alkaline solution. The following morning temperature was reduced to 102.5° F., and by evening to 100.25° F. The nostril was now more patent and showed the appearance of the bright-yellow pus coming from under the anterior end of the middle turbinated body. The purulent discharge from the nose was now more free and profuse, and, as a consequence, there was much less pain and tenderness over the parts. A bacteriological exam-

ination of the secretions demonstrated the streptococcus erysipelas. On the third day the first signs of the cutaneous involvement made their appearance, which rapidly spread over the entire nose, forehead, and right and left cheeks, so that by the fourth day the entire face was involved. Cultures were taken from the vesicles and pustules on the skin and showed the streptococcus erysipelas. After ten days the entire cutaneous as well as nasal symptoms subsided.

W. B. Cheadle<sup>11</sup> states that persons suffering from cirrhosis of the liver, vulnerable in so many respects, suffer from a special liability to erysipelas beyond that common to all chronic exhaustive diseases. Dr. J. Dreschfeld remarked that erysipelas was not uncommon in Hanot's disease, but there is no exclusive association with biliary cirrhosis, or, indeed, with hypertrophic cirrhosis, as compared with the atrophic kind. In the 53 fatal cases of the last ten years death occurred from facial erysipelas in 3. In 2 other instances of a previous period the fatal issue was due to the same cause—or 5 cases in all. Of these, the liver was enlarged in 3, 2 of which were syphilitic and 1 alcoholic. In the remaining 2 the liver was contracted and hobnailed and the affection was of alcoholic origin.

**Complications.**—David de Beck<sup>12</sup> says that retinal thrombosis during the acute stage of facial erysipelas is, fortunately, one of the rarest of complications. The ordinary involvement of the eyelids, leading to such swelling as prevents their opening, is common enough. The formation of abscesses in the eyelids, and even of orbital abscesses, is not so very rare.

<sup>9</sup> *Beit. z. klin. Chir.*, vol. xxvi, p. 261.

<sup>10</sup> *Phila. Med. Jour.*, Nov. 4, '99.

<sup>11</sup> *Lancet*, Apr. 7, 1900.

<sup>12</sup> *Cincinnati Lancet-Clinic*, Sept. 9, '99.

The occurrence of blindness after erysipelas was formerly thought to be the result of pressure purely, the orbital œdema or abscess, by pressing for days upon the optic nerve, mechanically destroying its functioning power. Most of these cases, if not all, are first examined after the subsidence of the acute symptoms and the disappearance of the palpebral swelling have made an ophthalmoscopic examination possible. A white atrophic disk is found, and white filiform lines, wholly or partially replacing the retinal vessels. All the retinal vessels may not, however, be involved.

These appearances can be explained by the occurrence of thrombosis in the retinal vessels. The compression causes stagnation in the retinal vessels. This acting mechanically, and aided by the infectious irritation, gives rise to proliferation of the endothelium and the formation of thrombi. These, finally organizing, produce the white lines of the obliterated vessels.

J. L. Salinger<sup>13</sup> says that Monteux reports an interesting case of erysipelas and acute articular rheumatism which occurred in a patient who had previously had an attack of acute articular rheumatism. He discusses the views of Achalme, who inclines to the belief that articular rheumatism is sometimes secondary and even due to the streptococcus of erysipelas. Monteux does not concur in this statement, but asserts that there are well-marked cases of erysipelas and acute articular rheumatism happening in the same patient not due to the micro-organism of erysipelas. A personal case substantiates the latter view.

The occurrence of acute facial erysipelas during an attack of rheumatic fever is, according to the literature on the subject, extremely rare.

**Treatment.**—In uncomplicated cases

of cutaneous erysipelas MacLachlan<sup>14</sup> says no special treatment is required beyond supporting the patient, favoring elimination, and using antiseptics locally. As to diet, brandy, eggs, and milk, with good beef-tea, are to be chiefly relied upon. The use of 1 to 2 drachms of brandy hourly in severe cases, with 1 ounce of milk, or egg and milk, is advised. It is of the greatest importance to regulate the quantity of food according to the powers of the stomach. Alcohol should be given in small quantities, and in a diluted state. The following in pill form—given every two, three, or four hours—is of value:—

R Opium, 1 grain.  
Quinine, 1 grain.  
Digitalis,  $\frac{1}{4}$  grain.—M.

W. H. Blake<sup>15</sup> states that during thirty years the following treatment has been successful in erysipelas: Aconite is given internally, while externally the face is hourly, perhaps oftener, painted with cider-vinegar, and a cloth wet with it is kept over the face. If the skin cracks, and the vinegar causes smarting, it should be first painted with a solution of cocaine.

Direct light should not shine in the face, and the bowels should be kept free.

With this treatment, such adjuncts being used as occasion may require, all the symptoms or effects seem to be greatly mitigated.

A. de Martigny<sup>16</sup> claims that 1 or 2 hypodermic injections of Marmorek's antistreptococcic serum is a very effective form of treatment, and will give in erysipelas as good results as have already been obtained by the use of the Behring-

<sup>13</sup> Phila. Med. Jour., Nov. 18, '99.

<sup>14</sup> Edinburgh Med. Jour., Aug., '99.

<sup>15</sup> Med. Brief, Jan., 1900.

<sup>16</sup> Maritime Med. News, Jan., 1900.



Roux antitoxin in diphtheria. This conclusion has been reached after an experience of six cases of erysipelas of the face in which it has been used.

It is of great importance to use a most powerful antitoxin. The streptococci found in different cases of the disease may not be all of the same variety, some may be more resistant than others, and one cannot determine the form present before giving the dose; a dose powerful enough to serve for the most resistant must be used. The Pasteur Institute of Paris has lately given an extremely powerful antitoxin, and this is the one personally used.

### HÆMOPHILIA.

**Symptoms.**—G. W. Wagner<sup>17</sup> remarks that the first symptom which usually calls the physician's attention to a "bleeder" is the uncontrollable hæmorrhage from an insignificant wound. It is rare for bleeders to be noticed at birth. Legg divides the disease into three grades:—

1. The tendency to every kind of hæmorrhage, external or internal, spontaneous or traumatic, and marked swelling of the joints. This form is usually seen in males and is often the cause of death.

2. Spontaneous hæmorrhage from mucous membranes and submucous ecchymoses.

3. Seen only in females: ecchymoses and profuse menstruation. Bleeding may be severe, but in the majority of cases there is a continuous capillary oozing, which in many cases proves fatal. The hæmorrhage may be intermittent. Epistaxis is by far most frequent; then follows hæmorrhage from the tongue, gums, stomach, bowels, bladder, lungs, and kidneys in the order named. Hæmaturia is not frequent, occurring in 5 cases of the 190 studied, and being fatal in 2. The

slightest injury may result fatally. A slight blow produces a "black-and-blue spot" such as is usually seen after a severe injury. Suppuration rarely follows an injury. Members of a family of bleeders, who themselves are not typical bleeders may have attacks of profuse epistaxis, and the female members profuse and prolonged menstruation. Some abort easily. Interstitial hæmorrhages are quite common. The joint affections of hæmophilia are important and often troublesome. They may follow exposure to wet and cold. They are often preceded by prodromata—a feeling of "pins and needles" in fingers or toes of affected limb or a feeling of heat in the joint. The joint becomes swelled and painful to the touch and apparently filled with fluid; there may be fever. The knee is most commonly involved, then follows the hip, elbow, ankle, and wrist. Duration of an attack may be several weeks and relapses are common. Repeated attacks may result in an ankylosed joint or at least impairment of its usefulness.

**Prognosis.**—In the study of the family-tree of a case of hæmophilia of a negro, Walter R. Steiner<sup>18</sup> found:—

1. The extraordinary fertility of bleeder's families (a fact first pointed out by Wachsmuth) is well shown in the family of the patient's great-grandmother. Five of her children died early, and none of the others, save one, now survives.

2. Of these, three children out of the six known to patient's mother died young. This accords with the fact that a large percentage of the bleeders die early.

Contrary to the usual statement, both the males and the females seem to have

<sup>17</sup> Physician and Surgeon, Sept., '99.

<sup>18</sup> Johns Hopkins Hosp. Bull., Feb., 1900.

been bleeders, but only one (a male) died from the effects of hæmorrhages.

4. The preponderance of the males is seen in two of the families named. This excess of sons over daughters has been given as a reason for the rarity of this disease.

5. The bleeding tendency in each instance was transmitted through the females.

Nové-Josseramb<sup>19</sup> considers the prognosis of hæmophilic arthritis as grave. Surgical treatment is absolutely contra-indicated. In at least one case which had been treated by actual cautery, under the mistaken impression that the affection was a white swelling of the knee and required counter-irritation, the dropping of the scabs, caused by the cautery, was followed by fatal bleeding.

**Treatment.**—G. W. Wagner<sup>20</sup> remarks that for the control of the hæmorrhage almost every drug known to have an hæmostatic effect has been tried. Watkins used the lime-salts with success, and Huntly used calcium chloride in combination with opium in severe hæmorrhage with good result. Wright reported the use with benefit of calcium chloride in  $\frac{1}{4}$  per cent. to 1 per cent. as a local styptic and its internal use in small doses, and advised the administration of a solution of nucleo-albumins at the same time if necessary. Pungs also used calcium chloride with success, but in the hands of Ross, Shaw, and a number of others the results were negative. Beenswald controlled the hæmorrhage in one instance by depositing on the wound blood aspirated from a healthy person. Cocaine in 4-per-cent. solution as a local styptic was effective in the hands of Robinson in one case. Gelatin by injection was used in one case with good result.

The successful treatment of several cases personally noted has been by leav-

ing the wound exposed to the air. It may be necessary, as in one of these cases, to apply hot water to control the hæmorrhage from some small artery that cannot be caught and tied. December 3, 1898, Brown reported the successful treatment of a case by inhalation of oxygen. Apparently the best remedy to control the hæmorrhage is oxygen either by inhalation or contact. The after-treatment is the same as in any case of simple anæmia. In the treatment of the joint affections absolute rest with simple puncture if necessary may give the best result. The local application of iodine or ichthyol may be of benefit. All counter-irritation should be employed with caution, as it has been followed by alarming hæmorrhage and extensive sloughing. Surgical intervention should be avoided if possible.

As regards prophylaxis, members of bleeder families should be guarded from injury. Fresh air, frequent bathing, and out-door exercise is desirable, but exposure to cold and damp should be avoided. Alcoholic stimulants should be prohibited. Daughters should not marry. The narrow lung-space, at least in some cases, is a factor in the deficient oxygenation of the blood, and would suggest that in future the capacity of the lung-space be carefully noted.

Klotz<sup>21</sup> says that several years ago he had occasion to see a case of severe bleeding from the urethra in an habitual bleeder, who was a patient in the German Hospital, but not under personal treatment. He came to the hospital on account of constant oozing of blood from the urethra, several days after a sound had been passed by a physician. Appli-

<sup>19</sup> Revue de Chir., No. 12, '99.

<sup>20</sup> Physician and Surgeon, Sept., '99.

<sup>21</sup> Jour. Cut. and Gen. Ven. Dis., Apr., 1900.

cations of a solution of the perchloride of iron were made through the endoscope, whereupon the hæmorrhage gradually ceased.

J. B. Nichols<sup>22</sup> notes a case of hæmophilia, in which profuse hæmorrhage from an accidental wound ceased immediately upon the use of gelatin. The patient accidentally cut his right wrist and forearm on broken glass. The wounds were cleaned, the divided tendon sutured with catgut, and the skin closed with horsehair; no vessels were ligated, bleeding being apparently checked by hot compresses.

The wounds were first redressed three days later. They had been very painful and had bled freely into the bandages. This bleeding was checked by pressure and a dressing snugly applied. Three hours after this dressing was put on the patient returned with the dressings completely saturated and dripping with blood, profuse hæmorrhage having occurred; a new dressing was tightly applied. Seven days after the original injury the wounds were examined and both were found widely gaping and filled with blood-clot and broken-down tissue; blood was persistently oozing from the wound at the wrist, and the entire forearm was cold, blue, clammy, and much swelled. Incisions radiating from the edges of the wound were made and flaps turned up to expose it to its depths. The tissues were completely saturated and infiltrated with clotted blood, and the different kinds of tissue, ligaments, tendons, muscles, etc., all looked alike and were quite indistinguishable from one another; they were soft and friable, and tore easily in the forceps. No bleeding vessels were found, though several catgut ligatures were inserted deeply and tied. The bleeding seemed to consist of a general oozing, and was not checked even by the tourni-

quet. A bacteriological culture-tube of sterile 10-per-cent. gelatin was melted and poured into the wound; after suturing the new incisions, iodoform gauze was packed in, and the wound dressed. Ergot was also ordered, a teaspoonful of the fluid extract, three times a day.

Little hope for the patient's recovery was entertained. No more bleeding, however, occurred, the pain disappeared, the patient became comfortable and was able to sleep. Two days after the application the wound was dressed and was found in a highly favorable condition. The swelling and cyanosis of the forearm had entirely subsided; it was warm and rosy and its circulation good. The ecchymotic and broken-down tissue in the wrist had undergone liquefaction-necrosis and been absorbed into the dressings, leaving a nicely granulating ulcerated surface four or five centimetres in diameter. It was again dressed with gelatin, as before, and the ergot continued two days longer.

Henceforth the case followed the course of a healthy granulating ulcer, uninfected, and was treated in the ordinary manner.

Heymann<sup>23</sup> notes the case of an apparently healthy man, aged 23, who had frequent and violent epistaxis. After an operation on May 1st for adenoids the hæmorrhage was not very violent, but could not be arrested. The patient then gave a history of dangerous bleeding from hæmorrhoids and after the extraction of a tooth. The local application of ice and of ferropyrin, plugging the anterior and then the posterior nares failed, so the subcutaneous injection of gelatin solution was tried: 140 cubic centimetres of sterilized normal saline solution,

<sup>22</sup> *Med. News*, Dec. 2, '90.

<sup>23</sup> *Münch. med. Woch.*, Aug. 22, '99.



containing 2.5 per cent. gelatin, were injected under the skin of the thorax. Within three-quarters of an hour the hæmorrhage ceased completely. On May 3d it became necessary to remove the plugs. Just before this was done another 240 cubic centimetres of the gelatin solution were injected, but nevertheless the hæmorrhage recommenced, and necessitated a second plugging of the anterior and posterior nares. After that the bleeding stopped, but the next day another 160 cubic centimetres of the solution were injected as a prophylactic. The same day one of the posterior plugs separated without hæmorrhage, and on May 5th the other was removed. The anterior plugs were taken out on May 6th and 7th, respectively, and no further hæmorrhage occurred.

A prophylactic gelatin injection should be given at least three-quarters of an hour before removing the plugs.

### INFANT-FEEDING.

Hugo N. Leavell<sup>24</sup> considers regularity in feeding as of the utmost importance. An infant should be fed every two hours from birth to the third month, twice at night; never more. From third month to fifth month every two and one-half hours, once at night. After this to weaning-time an interval of three hours and none at night should be strictly observed. So important is this that infants should be awakened during the day to nurse. By doing this they will early be taught regular habits. The quantity administered at each feeding can be so regulated that they will awake because of hunger at the required time. An infant who goes for a prolonged period without food is either very weakly or is being too well fed. It is also important to begin at a fixed hour each morning.

H. S. Kinne<sup>25</sup> particularly emphasizes

the fact that the physician should not depend upon the attendant, but should himself give minute instructions as to the preparation of the food.

To insure success, certain simple, but very important, rules must be followed when children are breast-fed as well as when they are artificially reared. Of these may be mentioned: (1) regularity of feeding, (2) the length of time the child is allowed to remain at the breast at each feeding, and (3) the avoidance of night-nursing.

It should be impressed upon the mother from the very start that the child should have its meals at regular intervals, and should remain at the breast for fifteen to twenty minutes, but not longer.

One cause of vomiting and colic is the too-rapid flow of the milk from the breast, and in such cases some means must be devised to restrict it. This may be done by compressing the nipple between two fingers, by placing a rubber band around it, or by the use of a nipple-shield. A scheme found quite effective in certain cases where the breast-milk does not agree well is to remove the child from the breast after it has nursed five minutes and give it a teaspoonful of hot water, then, after allowing it to nurse five minutes longer, a teaspoonful of lime-water is given; after the next five minutes' nursing, one of hot water and again the lime-water.

Breast-fed babies should be given the bottle occasionally (after they are two or three months old once or twice a day regularly). Water, which all babies should be given to drink, may be given from the bottle, and a properly-modified milk mixture may also be given at the intervals mentioned. This prepares the

<sup>24</sup> Diet. and Hygienic Cook. Book, 1909.

<sup>25</sup> Internat. Med. Mag., Feb., 1900.

child for the final weaning, and it also strengthens the digestive organs and gives the mother a needed rest, thus improving the quality of her milk.

H. D. Chapin<sup>26</sup> says that the fat in milk from a mixed herd seldom falls below 3 or rises above 5 per cent. For infant-feeding, 12 per cent. and 8 per cent. cream have been found to be the most convenient.

A dipper personally found of value is simply a small cylindrical box made of tin, and having a vertical wire handle attached to the side. The dipper holds just one ounce, and is really nothing more than a miniature milk-dipper of the ordinary type. If 9 ounces are removed from the top of the bottle and are all mixed together, it will be found that this mixture will yield 12 per cent. of cream with remarkable uniformity. This has been proved by numerous assays. If 8 per cent. of butter-fat is required, 16 ounces should be removed and all the portions mixed together. A number of assays of such milk has shown the average to be 7.8 per cent. of butter-fat. The dipper holds one ounce of granulated sugar, and one dipper and a half represent 1 ounce of milk-sugar. The reason for using this dipping process is that the tipping of the bottle, even when the cream is decanted with great care, mixes the different layers more or less.

F. W. Loughran<sup>27</sup> says when the physician has decided that the mother can no longer nurse her child,—and it is a decision that carries with it the greatest responsibility,—the infant must be furnished a substitute as near mother's milk as science can offer.

An apparatus, called the "Materna," was suggested by Dr. Sidney V. Haas, and consists of a glass graduate holding 16 ounces and showing seven panels. One of the panels presents an ordinary ounce

graduation, the other six panels present six different formulæ for the modification of cows' milk, each formula so arranged as to make it suitable for a certain period of the infant's growth.

The bottle from which the infant is fed should be of such a form that it can be easily cleaned. It should be practically a test-tube, the mouth being much larger than the mouth of the ordinary nursing bottle and should also be graduated so that the mother should not guess at the amount of each feeding. It should be cleaned with soap and water and boiled before being filled. The nipple should be of fine, soft rubber and adapted to the size of the infant. They should be made so as to be easily turned wrong side out for cleaning. They should be boiled after each using and kept in cold water to which has been added a little soda. New ones should replace the old ones frequently.

The intervals between each feeding should be observed with great care. The child should be weighed carefully and a record kept, and, if it is well and receiving the proper nourishment, there should be a gradual gain from week to week.

During the past year "Materna" has been personally used in a large number of cases, most of them being cases of malnutrition or summer complaint, where the infant had been fed either on condensed milk or some manufactured food. Their improvement was most marked. There was a steady increase in weight.

E. H. Bartley<sup>28</sup> hands the following printed directions to the mother at the beginning of her experience in preparing food from cows' milk for the baby:—

From the bottom of a bottle of fresh

<sup>26</sup> Pediatrics, Jan. 1, 1900.

<sup>27</sup> Diet. and Hygienic Gaz., Mar., 1900.

<sup>28</sup> Brooklyn Med. Jour., May, 1900.

milk of good quality, three-fourths of its contents are to be siphoned off, the cream and upper part of the milk being left undisturbed in the bottle. This may be easily done with a small glass siphon or rubber tubing, previously filled with water, to start the siphonage. One end of the rubber tube is then pinched and held firmly, while the other is thrust through the cream and to the bottom of the bottle. The outer end is lowered into the inner vessel of an ordinary double boiler, and released, when the skim-milk will run out, provided the latter vessel is kept lower than the milk in the bottle. To the milk thus drawn off a teaspoon and a half of a good essence of pepsin should be added, and it should be warmed slowly in the double boiler to blood-heat, and kept at that temperature until thoroughly curdled. Now it is to be heated with constant stirring, until a thermometer dipped into the milk shows a temperature of 155° F., and then removed from the fire. While hot, it should be strained through a clean wire strainer, and a heaping tablespoon of sugar of milk and the white of 1 egg should be dissolved in the whey. When cold, the sweetened whey is to be poured back into the milk-bottle and mixed thoroughly with the cream and top milk. The mixture is then pasteurized in a Freeman pasteurizer.

(NOTE.—Should this food prove too laxative, the quantity of milk-sugar is to be reduced. It is well to add, at the time of feeding, from 1 to 2 teaspoonfuls of lime-water to each meal. As the child increases in age and strength the amount of bottom milk siphoned off may be diminished.)

One great benefit of this process is its pliability, or the ease with which the constituents may be varied. If one wishes to reduce caseinogen, more of the bottom

milk is drawn off. To increase it, less is drawn off. To decrease the fat, a part of the cream is to be dipped off, it being remembered that the whole amount of cream measures from 10 to 12 tablespoonfuls. To increase the fat, a little less than the full amount of whey is to be added, after removing the curd. To increase the soluble albumin, more white of egg should be added. The sugar may be varied at will, by adding more or less as desired.

This food has given good clinical results in almost every case.

Henry Koplik<sup>29</sup> says the best bottle in use for infant-feeding is the original Soxhlet form of bottle, but with a wider and shorter neck and a round bottom.

Milk remaining in the nursing bottle after nursing is completed should not be utilized for the next nursing. When the bottle is emptied it should be filled with a strong solution of bicarbonate of soda and put aside for an hour or so, and then the bottle should be washed inside and out with a bristle-brush made for this purpose, and having been rinsed with warm water is placed upside down to drip, either on a rack or on a convenient stand, until it is dry. In private families no other procedure is necessary. In a hospital ward, however, where there is a series of diseases, the dried bottles should be sterilized, reheated in a dry hot-air oven for 30 minutes at a temperature of 140° Celsius (284° F.) before new milk is placed in them.

Corking the bottles before sterilization is most practicable in the hospital ward and private family. A small flat pad of ordinary non-absorbent cotton batting is taken and in the centre of it is placed a smaller piece of cotton and the pad is folded over this smaller piece of cotton

<sup>29</sup>Trained Nurse, Aug., '99.



and the whole is inverted into the neck of the bottle which has been filled with milk-mixture. The cotton plug should fit evenly and not too snugly.

Corking after or during sterilization is accomplished by means of rubber corks. There are three varieties, the simplest of which is the ordinary rubber cork used in medicine-bottles. The milk is sterilized without anything covering the neck of the bottle, and after sterilization is completed and without loss of time the bottle is corked with a rubber cork. This is simple and efficient.

When the new Soxhlet bottles are used they are filled and placed in the sterilizer, and each bottle-neck is covered with its flat disk of rubber, held in place by a small tin device. Sterilization is then inaugurated, and as it proceeds the air and steam of the milk is allowed to escape. After sterilization, the basket of bottles is removed, and as they cool a vacuum forms in the bottle above the milk; the outside atmospheric pressure presses the outside of the rubber disk to such a degree as to actually make it concave, with the convexity in the neck of the bottle. The bottle is sealed hermetically and can be opened by placing a small knife or anything beneath the disk and lifting it off. Once opened, the milk in the bottle must be utilized at once, and what is not utilized must be thrown away.

The nipple is placed on the bottle after it is uncorked and warmed, then given to the infant. The old-fashioned nipple with rubber tubing attached should never be used. The simple rubber nipple is now used, and the one attached to Dr. Rotch's milk-tubes seems to have the ideal shape. Nipples are washed after use with a bristle-brush inside and out, and after drying can be used the same day over again. They should be steril-

ized daily, as also all rubber corks in the sterilizer when the milk is sterilized.

Pasteurization is a term which is used to indicate the heating of any fluid to 60° or 65° C. (140° to 150° F.). An instrument called the "Freeman Pasteurizer" has been invented to carry out the process as accurately as possible for the household. The bottles and other minutiae of pasteurization (as corking) are the same as in sterilization.

The sterilization of milk at a low temperature is accomplished by heating the milk to 89° to 92° Celsius (197° F.), instead of the full 100° C. (212° F.). This method is now in general use, and is carried out by the "Arnold Steam-cooker" with a perforated cover. The outside hood of the cooker is not used. Low sterilization is used where one does not wish to keep the milk longer than a few days or, at most, twenty-four hours.

The essential difference between sterilization and pasteurization is that the latter does not in any way affect the vitality of the bacillus which turns milk sour: the bacterium lactis.

According to W. B. Ransom,<sup>30</sup> chemical suitability, digestibility, and freedom from microbes are not the only essentials of a food, but there is something in fresh food—the "antiscorbutic" quality—which infants and adults alike need. The exclusive use of "artificial" foods and of milk sterilized by prolonged boiling is rather to be deprecated by the medical profession than to be preached. Pasteurization of milk or heating the milk in a vessel surrounded by boiling water for ten minutes is probably sufficient to stop the danger of bacterial infection except in special circumstances, such as during epidemic summer diarrhoea, or typhoid-fever or cholera epidemics.

<sup>30</sup> *Lancet*, Nov. 4, 1909.

It is much to be desired that firms who have devoted so much care to the preparation of "infants' foods" should add to their value and diminish their danger by issuing with their tins a caution as to the need for the addition of some fresh food to the dietary.

H. P. H. Galloway<sup>31</sup> says that no milk is suitable for modifying, or for the nursery, that is not *quite* pure and safe. "Sterilizing" and "pasteurizing," so called, cannot make an old, impure milk valuable; but, instead, it remains dangerous for infant-feeding. It is now ascertained beyond question that the chemical poisons generated by certain bacteria are as potent after sterilizing them as before. Heat kills some bacteria, but it does not destroy the poisons generated by them. If milk is sterilized after the poisons have been generated, it is as dangerous as unsterilized milk may be.

It is for these reasons that the physicians who know the most about infant-feeding are so strongly of the opinion that the selection of a perfect milk is quite as important as the form of its modification.

But this is also certain, that the form of modification is equally important. It is as foolish to say that a perfect milk can be successful if wrongly or imperfectly modified, as to say that perfect modification will be successful with an unsafe milk, even if it be "fresh." The experience of the Walker-Gordon laboratories, in feeding many thousands of infants, absolutely proves that a good milk and a good method must go together.

In laboratory modification—modified milk—it is believed that as great a degree of accuracy should exist as is found in the production of drugs or in the filling of prescriptions for medicine, and the method is based upon two things, namely: an accurate basis in milk and

cream, and a mathematical and mechanical method that admits of no mistakes in the formula plans.

Prescription-feeding, from the Walker-Gordon laboratories, has been successful as a medicine-diet for sick infants and children, but the chief uses of the laboratories have been the regular feeding of healthy infants from birth. The process is necessarily an expensive one, the cost of feeding an infant being considerably more than by any of the patented artificial foods, but the results prove this method incomparably safer and better.

Milk containing a definite percentage of fat for home modification may also be procured upon physicians' orders.

T. M. Rotch<sup>32</sup> believes that whole cows' milk does harm to the majority of infants: hence the modification of this milk is valuable and necessary, because infants have different degrees of digestive powers, and a great variety of strengths of the various constituents are needed.

The modification of milk for infant-feeding should be done under a physician's prescription. There are numerous obstacles in the way of having this done in the homes of the parents. In the first place, the milk obtained may be diluted with water. Then the cream of different milks may have different percentages of fat. Then, again, the mother may add a teaspoonful of cream or a tablespoonful of milk to the mixture ordered, in order "that her baby shall not be starved." This changes the entire formula, with entirely different results following. It is possible, by substituting a

<sup>31</sup> Canada Jour. of Med. and Surg. Mar., 1900.

<sup>32</sup> Med. Age, Dec. 30, 1899.

heavy for a light cream, to change the fat in a twenty-ounce mixture from 4 per cent. to 10 per cent. This cannot be told except by analysis, and this is why so many physicians' modifications fail. With slight errors making such great changes, it is readily seen that it is practically impossible for the mother to do the modifying aright. This should be done in laboratories by experts who analyze the milk, who test it chemically, and thus find the fat-value of cream, the relative amount of proteids, the presence of bacteria, etc.

In regard to the bacteria, contract milk is generally better and safer to use. The cows, their stables, food, attendants, etc., can be inspected. The milk from a single-cow supply is a great danger to successful modification. Nearly all the epidemics resulting from an impure milk-supply can be traced to these small sources of supply. It is not believed that heating in any form, such as pasteurizing, sterilizing, etc., destroys the toxins which have already developed in milk which contains bacteria.

G. F. Blacker<sup>32</sup> recognizes that, in dealing with delicate infants, the introduction of what is termed modified milk, or the method of ordering a mixture of cows' milk of varying composition according to the individual needs of the particular child, seems to be a distinct advance in the scientific feeding of young infants.

The following prescriptions are those personally ordered for a baby of average weight during the first four to six weeks of its life:—

#### FIRST WEEK.

Proteid .....	9.75 per cent.
Fat .....	2.0 per cent.
Sugar .....	5.0 per cent.
Slightly alkaline. Heat to 167° F.	

#### SECOND WEEK.

Proteid .....	1.0 per cent.
Fat .....	2.5 per cent.
Sugar .....	6.0 per cent.

#### THIRD TO SIXTH WEEK.

Proteid .....	1.0 per cent.
Fat .....	3.5 per cent.
Sugar .....	6.5 per cent.

The advantage that modified milk possesses over ordinary milk or cream mixtures is undoubtedly great. In the first place, the exact composition of the food with which the child is fed is known, and in cases where it disagrees one is in a position, by altering the relative proportions of the various constituents, to overcome the difficulty at the very outset. As the milk only requires warming before being given to the infant, any danger of faulty mixing or contamination on the part of the nurse is entirely avoided. No cleansing of the bottles is required, a matter in which many nurses are very careless, and the neglect of which often causes considerable trouble. The food is not likely to vary from day to day, as ordinarily cows' milk certainly does, although usually only to a slight extent.

John Adriance<sup>34</sup> notes that, whereas it is generally assumed that milk contains 4 per cent. of proteids, the latest analyses demonstrate that the average is not over 3.5 per cent. In diluting milk for the purpose of modifying it for infant-feeding this error would not greatly affect the result, provided the dilution of the milk or cream was not over 1 per cent., but, on the other hand, if the dilution was as much as 2 per cent., the resulting prod-

<sup>32</sup>Clin. Jour., Feb. 28, 1900.

<sup>34</sup>Phil. Med Jour., Mar. 24, 1900.



uct would contain 0.75 per cent. less proteid than had been intended. The importance of avoiding such an error can be well imagined when one recalls the disturbance in digestion produced in some infants by altering the proteids by so small a quantity as 0.2 per cent. An important fact to be borne in mind in connection with the modification of milk for infant-feeding, and one not generally appreciated, is that, as the fat increases, the percentages of the other ingredients materially diminish.

J. E. Winters<sup>35</sup> says that clinical observation has long ago convinced him of the truth of the statement regarding the diminution of the percentages of the other ingredients as the fat is increased. Physicians quite commonly overlook the effect on the result of varying the quantity of cream taken from the upper part of the milk-bottle, and of the influence of temperature and the time the milk is allowed to stand. Thus, if 2 ounces are taken from the upper part of a quart of milk that has been standing for 16 hours, they will contain  $7\frac{1}{2}$  times as much fat as proteids, whereas if 4 ounces are taken from the upper portion of a quart of milk that has been standing only 8 hours, they will be found to contain  $3\frac{1}{3}$  times more fat than proteids. Many of the poor results obtained in feeding of infants on modified milk can be ascribed to the use of milk containing too low a percentage of proteids. The muscular development of the child is very largely dependent upon the percentage of proteids present in the food.

L. Emmett Holt<sup>36</sup> emphasizes the great importance of increasing the percentage of proteids in the milk as rapidly as the infant can digest it, but cautions against commencing with too high a percentage. One should begin with only 0.25 or 0.5 per cent. of proteids, and increase it rap-

idly, so that, in many instances, the food will contain 1.5 per cent. of proteids at the end of the first six weeks. This is the key-note to success in the artificial feeding of infants.

According to C. E. Woodruff,<sup>37</sup> the average of the recommendations of specialists, is that:—

1. Diluted cream be used, beginning with about  $13\frac{1}{2}$  per cent. of fat and gradually reaching pure cows' milk in 14 months.

2. That the dilution of this cream is the important process to get the proteids low, and that in the beginning there should be  $5\frac{1}{2}$  parts of diluent to 1 of cream, the proportion of water rapidly diminishing for two months and more gradually thereafter.

3. The ratio of the proteids desired to that in the cream (4) is the ratio of the ounces of cream to the total ounces. Thus, if  $1\frac{1}{2}$  per cent. of proteid is required, one must have  $1\frac{1}{2}$  parts of cream to 4 of the daily feeding, or 13 ounces of cream and 21 of water: a total of 34.

4. Beginning with 3 level tablespoonfuls of milk-sugar a day, this is rapidly increased until the third month, when 6 are added, and beginning in the ninth month the sugar is gradually diminished until at 15 months none is added.

Ernest Wende<sup>38</sup> quotes the following suggestions for testing milk as published by the New York City Department of Health:—

By the cream-gauge: The cream-gauge is to be filled one-half full with water at a temperature of  $120^{\circ}$  F., to which have been added a few drops of a strong solution of washing-soda. Then, after stirring

<sup>35</sup> Phila. Med. Jour., Mar. 24, 1866.

<sup>36</sup> *Ibid.*

<sup>37</sup> *Ibid.*

<sup>38</sup> Pediatrics, May 1, 1900.

up the contents of the can thoroughly, the gauge should be filled to the top mark with the milk. It is then to be well shaken and placed in very cold water (say, 40° F.). In about thirty minutes the cream will have risen and the percentage can be read off, it being remembered that the result observed must be multiplied by two, as one-half ( $\frac{1}{2}$ ) water and one-half ( $\frac{1}{2}$ ) milk were used. Good milk should show by this test 14 to 18 per cent. of cream.

By the lactometer: To test for water, the lactometer can be used as follows: The milk to be tested is to be stirred so that a fair sample can be taken. Then enough milk should be warmed or cooled to 60° F. to fill the testing cylinder. The lactometer is then inserted in the milk in the testing cylinder, care being taken not to wet that part of the stem above the milk, and observation is taken of where it floats. Pure milk will not fall below the 100° mark on the lactometer at 60° temperature. It must be remembered that skimming the milk will make the lactometer float higher and the addition of water or cream may make it sink lower than 100°, but if the appearance of the milk upon the lactometer is noted, no one can easily make a mistake. If the lactometer floats below 100° and the milk looks thin, water has been added; if it floats above 100° and the milk looks thin, it may have been skimmed or skimmed and watered. But if it floats about 100° and looks creamy and yellow and sticks to the glass, one can be reasonably sure that it is pure. Good average milk will indicate 109° on the lactometer at a temperature of 60° F., and show about 14 per cent. of cream by the cream-test given above.

The rules adopted by the Philadelphia Board of Health provide all milk-dealers with a standard lactometer and thermom-

eter and test all milk received for sale by them.

### VOMITING OF PREGNANCY.

**Etiology.**—From an analysis of the urine in hyperemesis gravidarum, E. Dirmoser<sup>39</sup> concludes: 1. That the products of metabolism, normally excreted,—such as indol, skatol, and ethyl-sulphates,—are found in increased amount in these cases. 2. That abnormal constituents—namely: albumin, urobilin, acetone, and peptone—occur in the urine. 3. That acute nephritis may occur. A similar condition of the urine and kidneys is found in many acute infectious diseases, such as the diarrhœas of children, Asiatic cholera, ileus, etc., and are due to the stimulation of the kidneys by poisonous products absorbed from the bowel. Should this autointoxication theory be correct, intestinal disinfection is indicated.

From a study of pernicious vomiting of pregnancy, E. L. Twombly<sup>40</sup> states that faulty positions and displacements of the pregnant uterus which delay its rising out of the pelvic cavity and press upon the neck of the cervix are more often causes of excessive vomiting than it has been generally supposed. (This takes for granted that the irritant is the local one, and that one has excluded vomiting originating from other conditions: *i.e.*, chronic gastritis, icterus, cancer of stomach, etc.)

D. J. Evans<sup>41</sup> thinks that “morning sickness” is capable of explanation as follows: There is probably more or less of an accumulation of effete material in the maternal blood in the morning, which

<sup>39</sup> Wiener med. Woch., Oct. 7, '99.

<sup>40</sup> Phila. Med. Jour., Feb. 10, 1900.

<sup>41</sup> Amer. Gynec. and Obstet. Jour., Jan., 1900.

leads to increased irritability of the nervous centres. The effect of assuming an erect position is to bring about a determination of blood to the pelvis. This engorgement of the pelvic circulation probably leads to more energetic uterine contraction, which, acting reflexly upon the centre, produces nausea and vomiting. When food is taken before rising it is probable that considerable blood is determined to the stomach; hence less will find its way to the pelvis when the patient stands erect, so that the uterine contractions are apt to be less vigorous than when the patient rises fasting.

It is probable that the beneficial effects of nerve-sedatives in the treatment of this distressing condition are obtained not so much by inhibiting the uterine contractions as by soothing the irritable nervous system and thus controlling the reflex.

He would summarize his conclusions as follows:—

1. There exists more or less of a rhythm in the paroxysms of nausea and vomiting in pregnancy.

2. There must also exist a rhythmical exciting cause for these paroxysms.

3. There is a rhythm in the contractions of the uterus which occur throughout pregnancy.

4. The essential exciting cause of the paroxysms of nausea and vomiting of pregnancy is frequently the physiological contraction of the muscular fibres of the uterus.

**Treatment.**—In vomiting of pregnancy, J. A. Williams's<sup>42</sup> plan is to treat every case from the beginning as if it were pernicious.

In all cases the patient is placed in bed and treated as follows:—

- I. Dietetic: Consisting strictly of liquid diet, such as milk, koumiss, Valentine's beef-juice, and liquid peptonoids.

These should be given at first in small amounts often repeated. Small quantities of water only should be taken by mouth. Lime-water added to milk will often be efficient. Usually 2 drachms of liquid peptonoids or 2 ounces of milk with lime-water are given every two or three hours. Cracked ice with champagne is beneficial in many cases.

- II. Medicinal: Subnitrate of bismuth and oxalate of cerium, in doses of 15 to 20 grains of the former, 10 to 15 grains of the latter, given every four hours, with broken doses of calomel, have been found the most efficient drugs in the majority of cases. In catarrhal conditions tincture of nux vomica before meals and pepsin with muriatic acid after meals is of service. Large enemata of normal salt solution are very important, and should always be used; they not only wash the excreta from the bowels, but relieve thirst, and frequently this alone will be sufficient to suppress the nausea.

Cocaine is often beneficial. Opium should never be used, as the after-effect will, in nearly every instance, aggravate instead of relieve emesis. Ingluvin also deserves mention.

- III. Local: One should always examine for and correct displacements if possible. If the os is ulcerated or painful, painting it with nitrate of silver or pure carbolic acid will often be of great service. Frequently, dilating the cervix with steel dilators will often be beneficial. Counter-irritants over the stomach and large injections into the bowels of 2 quarts daily of normal salt solution should be tried. Nutrient enemata of peptonized milk or liquid peptonoids are to be used, as stomach-rest is often required for a few days.

When the above have been faithfully

<sup>42</sup> Charlotte Med. Jour., Mar., 1900.



and vigorously tried and, in time, everything is rejected, the patient becoming pale, wasted, and apathetic, one should decide upon operation as a last resort.

An editorial<sup>43</sup> directs attention to strychnine or nux vomica in the vomiting of pregnancy; in suitable cases, either will act as a specific. In extreme cases of hepatic torpor the addition of ipecac will prove a valuable aid.

For vomiting of pregnancy Dudley<sup>44</sup> is in the habit of giving cocaine in capsules,— $\frac{1}{2}$  grain of cocaine to 3 of monobromate of camphor,—and he has found that this will invariably stop the vomiting.

In persistent vomiting of pregnancy F. Hermann<sup>45</sup> recommends orexin in 5-grain doses after each meal. He has successfully treated nine cases by this means.

Landesman<sup>46</sup> gives the following treatment of hyperemesis gravidarum from the clinical practice of Professor Schauta:—

Ice pills, brandy, and champagne are of value, while food is to be taken in a horizontal position, the latter being maintained an hour after eating. Of remedies, chloroform, cocaine, and orexin, also Bematzik's drops (morphine and chloroform) are to be tried, and, if these fail, nutritive enemata (of pancreatinized meat) should be given and nitrate of silver (10 per cent.) is to be applied to the cervix. Artificial abortion is used as a last resort.

George Covert<sup>47</sup> says that, when the vomiting occurs only in the morning and is slight, it may be palliated by some aromatic infusion. Sometimes a cup of hot coffee, without cream and sugar, and dry toast before rising, may have a salutary influence.

If the discharges are acid, magnesia and alkalies, charcoal, etc., should be given. If the tongue is red, acids—like

lemon-juice, tartaric acid—or even sour wines may be employed. If there is bile, rhubarb and potassæ, with small doses of podophyllin or manganese, are of value.

If there is much pain with the vomiting, a mild opiate or sedative, like codeine, salpene, or some of the coal-tar derivatives—as antikamnia—should be given. When opiates are not admissible, then a fomentation of hops and stramonium over the stomach may be used to the greatest advantage. If there are gastric and hepatic derangements, mild cholagogues are demanded. Where persons vomit after meals, champagne with the meals will usually prevent it. One-drop doses of tincture of nux vomica, given in small capsules, sometimes succeed; in-glavin and oxalate of cerium are often of value.

If there is a morbid condition of the cervix, it should be painted with a 10-per-cent. solution of cocaine and a tampon of cotton-wool soaked in the solution inserted in the cervix.

When vomiting is due to the pressure of the gravid uterus on the stomach, palliation is all that can be expected, strict attention should be paid to the bowels, and nervines, such as comp. celery in drachm doses (the compound being celery, kola-nut, and coca in equal parts), are to be used.

When the patient suffers from inanition, it may be necessary to resort to rectal feeding. Some *accoucheurs* advocate very highly a blister over the fourth and fifth dorsal vertebræ, claiming that a single application is sufficient to terminate the vomiting.

<sup>43</sup> Medical Summary, Jan., 1900.

<sup>44</sup> Amer. Jour. of Obstet., Feb., 1900.

<sup>45</sup> Therap. Monats., II. 1, S. 24, '99.

<sup>46</sup> Ther. under Wiener Klinik, 1900.

<sup>47</sup> Chicago Med. Times, Apr., 1900.

When other things fail, the following has been found efficient:—

- R Soda bicarb., 5 grains.  
 Acetanilid, 3 grains.  
 Citrate of caffeine, 1 grain.—M.

One such powder taken before rising in the morning, repeated during the day if necessary.

If all these measures fail, premature labor must be resorted to.

## Cyclopædia of Current Literature.

### ADENOID VEGETATIONS.

Among 1087 children, 138 mouth-breathers were found, and in 114 of these adenoids were the cause of the mouth-breathing.

On an average, among 1000 patients, there were 127 in whom adenoid growths required removal. Personally, superficial chloroform anæsthesia in the sitting position is employed. Gottstein's curette has been abandoned, and a scissors curved so as to fit the vault and posterior wall, and constructed so as to catch the detached tissue, is used. Alfred Decker (*Jour. of Laryn., Rhin., and Otol.*, Apr., 1900).

### ANÆSTHESIA IN CHILDREN. PREPARATION FOR.

In preparing children for operation, it must always be borne in mind that, the younger the child, the more severely does it suffer from long deprivation of food. No child under eight or ten years of age should be left more than three hours without food, even before a major operation. In dealing with children the important point is not so much the length of the fast as the nature of the food given during the few hours preceding operation. Milk and bread and butter should not be given within five or six hours of an operation, and not at all if the operation is to take place early in the morning. By far the best thing to give to young children is whey, which is easily absorbed and leaves no residue. In older children

bavril or good meat-broth may be given. If the operation is to be a short one, and especially if it involves much shock or loss of blood (*e.g.*, removal of adenoids, circumcision, or osteotomy), the child may be given a light meal four hours before operation, and some whey or broth about an hour previously. In the case of operations of longer duration, it is better to give the last meal about three hours before operation, and this should consist almost entirely of nourishing liquids (not raw milk). If the child be weak, a little brandy may be given in addition. W. J. McCardie and C. F. Marshall (*Treatment*, Apr., 1900).

### ANÆSTHESIA, LOCAL, IN THE EAR.

To effect penetration through the outer layers of the tympanic membrane dehydrating agents are the most suitable. By abstracting the water from the tissues the latter contract, and the fluid passes through the interstices produced by this contraction into the deeper layers until it reaches the neurovascularities in the innermost layer. Both alcohol and aniline oil are agents of this description, and for general purposes a solution composed as follows is best suited for the production of anæsthesia: 5 or 10 parts of cocaine hydrochloride, 50 parts of dilute alcohol, and 50 parts of aniline oil. This solution is equally suitable for operations on the tympanic membrane, on granuli-

tions, or for the removal of ossicles. In the few cases in which one desires to operate upon a dense thickened membrane the penetrating power of the solvent must be increased. This is done by using absolute alcohol in place of rectified spirit and increasing the proportion of aniline oil, as shown in the formula above.

Further, the laws of osmosis must be kept in mind. Therefore, in order to effect penetration a large proportion of the solution should be used. In personal practice the external meatus has been filled with the fluid and no serious effects of cocaine poisoning have been seen by so doing. The worst that has occurred has been a trifling giddiness that passed off in the course of not more than five minutes.

The beneficial effect which aniline oil seems to exercise upon suppurative affections of the middle ear is probably due to its power of extracting water from the tissues. In practice it will be found that the mixture of equal parts of aniline oil and spirit is very suitable. Ten or 15 minims may be dropped into the ear and left there in the usual way once or twice daily. Aniline oil seems especially indicated in cases where there are cholesteatomatous masses and much *débris*. It softens these masses and aids in breaking them down, probably by its great power of dissolving fats and oils.

The method of producing local anesthesia above described is applicable to other mucous surfaces. It may be used for throat work, and, although there is at first a slight burning sensation, the subsequent anesthesia is more complete than with the aqueous solution. A 5-per-cent. solution is quite strong enough for throat work, and, owing to the large surface for absorption, it should never be used stronger. Another useful solution in throat work is a 5-per-cent. solution in

equal parts of glycerin and rectified spirit.

The medicinal dose of aniline oil is 7 minims. Care, therefore, should be taken that not more than this amount may be absorbed, though in the ear such a contingency is very unlikely. A. A. Gray (Lancet, Apr. 21, 1900).

### BACKACHE.

Backache is not only a common, but also a very important, symptom. Whether it be practically the only symptom present or whether it be associated with other more or less definite symptoms it is well worthy of a careful and searching investigation; and no investigation should be considered complete until the condition of the rectum has been ascertained. E. Harding Freeland (Lancet, Apr. 21, 1900).

### BRONCHITIS, SENILE.

In the treatment of senile bronchitis the amount of expectoration must be lessened. Of the drug remedies, strychnine and ammonium carbonate should be placed in the first rank. In acute exacerbations of chronic bronchitis ammonium carbonate, in 5- or 10-grain doses, given in 2 or 3 ounces of milk, not only liquefies secretion, but also stimulates the heart and the bronchial muscles, and thus relieves venous congestion and dyspnoea. For chronic bronchitis and convalescence from the acute form, strychnine sulphate, in from  $\frac{1}{10}$  to  $\frac{1}{20}$  grain, every three to six hours, not only does quite as much as the ammonium salt, but, in addition, is a more powerful stimulant to the right heart. To disinfect the expectoration, creasote carbonate, in 20-drop doses, given in 2 ounces of sherry, repeated every four hours until purulency disappears, is effective. Ordinary crea-



sote should never be given to the aged, because of its irritant effect on the kidneys. With copious secretion and difficult expectoration, this is the drug of choice. The use of opium, or any of its alkaloids, is most strongly condemned. Associated conditions—as gout, cardiac or renal disease—should receive attention.

Of physical measures, massage yields the most brilliant results. Systematic general massage, especial attention being paid to the chest, will increase chest-expansion, improve nutrition, and not only facilitate expectoration, but diminish its formation. A warm, dry atmosphere is essential. An artificially-dry atmosphere can be obtained in the patient's own room by exposure of calcium chloride or strong sulphuric acid in shallow earthen receptacles. Dust, so common in city-houses, must be filtered out. This can be done at the inlet of the warmed air, or by the wearing of a Robinson respirator. Wool should be worn next to the skin, and the feet should be kept warm. "Taking cold" can be avoided by vigorous cutaneous friction with the flesh brush, practiced daily, and inunctions of vaselin to the back of the neck and soles of the feet. To avoid night asthmatic attacks, hearty evening meals should be discouraged—a meat diet is preferable. Unless the patient is an habitual drinker, alcohol should be sparingly used, personal preference being for a good port. Quite essential is a free movement of the bowels, best obtained by increasing the strychnine and the occasional use of the pharmacopœial compound vegetable cathartic. As for muscular exercise, much depends upon the habits and the strength of the patient. If chilling can be avoided, exercise should be encouraged. R. W. Wilcox (*Amer. Jour. Med. Sci.*, May, 1900).

## CANCER OF THE BREAST.

The following summary is the result of a study of 100 cases of cancer of the breast:—

Trauma present in 44.6 per cent. of the cases.

Married, 74 per cent. of the cases.

Children born to 66.6 per cent. of the cases.

Average number of children to each, 5.

Pain present in 56.2 per cent. of the cases.

Nipple retracted in 45.2 per cent. of the cases.

Right breast involved in 51 cases.

Left breast involved in 49 cases.

Axillary glands palpable in 48.9 per cent. of the cases.

Axillary glands found cancerous by microscope, 78.6 per cent. of the cases.

Average age was 49 years, 6 months, 26 days.

Mortality of operation was 4 per cent.

Average length of time in hospital, 20 days.

Prolongation of life for one year, 50 per cent.

Prolongation of life for two years, 36 per cent.

Cured (no recurrence at end of three years), 34 per cent.

Recurrence took place in one year in 24 cases.

Recurrence took place in two years in 28 cases.

Recurrence took place locally in 15 cases.

Recurrence took place to lung in 5 cases.

Average length of time to recurrent cases from operation to death, 1 year, 2 months, 29 days.

Average length of time from period of recurrence to death, 6 months. C. A. McWilliams (*Med. News*, Apr. 28, 1900).

**CANCER OF THE UTERUS.**

**Prophylaxis.**—As a prophylaxis in cancer more operations ought to be done for lacerations of the cervix. A woman between forty and fifty years of age, who has borne children, ought invariably to be examined, and, when the physician finds she has a laceration of the cervix, a deep ulceration in the neck of the uterus, it ought to be repaired. Here is the greatest field of usefulness there is in connection with this disease. It is a very simple operation, it has no mortality, and it brings about a great deal of relief to the patient. All women who have the slightest disturbance of the menstrual function, or any hæmorrhage from the uterus after the age of forty, ought to be very carefully examined with the view of finding an old laceration of the neck of the uterus, and, if such a condition be found, it ought to have immediate attention.

Sterile women and unmarried women who have never borne children do not, as a rule, have cancer of the uterus; multiparous women, who have borne a large family of children, are the ones especially prone to cancer of the uterus. The only way this can be explained is upon the hypothesis that there is some connection between laceration of the cervix and cancer; that there is something about the lacerated uterine neck which invites the morbid process. L. S. McMurtry (*Amer. Pract. and News*, Mar. 15, 1900).

**EXTRA-UTERINE PREGNANCY.**

**Diagnosis.**—Pain alone, when not accompanied by a clear history of menstrual irregularity, symptoms of pregnancy, and the presence of a tumor at the side of the uterus or in Douglas's pouch, known to be of recent development, is pathognomonic of extra uterine pregnancy only under certain conditions,

viz.: the pain is of a sharp colicky character, distinctly localized on one side, attended with faintness more or less marked, and is usually followed by intervals of hours or days of complete remission. The pulse is accelerated during the attack, but there is no rise of temperature. The latter is an important symptom distinguishing ectopic from inflammatory conditions. The violent tearing pain attending intraperitoneal rupture is accompanied by the unmistakable evidences of internal hæmorrhage. In extraperitoneal rupture the symptoms vary in severity according to the amount of blood lost, but soon subside, being succeeded by the usual evidences of pressure resulting from a mass in the folds of the broad ligament which displaces the pelvic organs. A persistent pain following the acute attack may indicate localized peritonitis. Henry Cole (*Med. News*, Apr. 21, 1900).

**Treatment.**—An experience of some fifty cases has resulted in the following rules as a guide in dealing with extra-uterine pregnancy: For cases of tubal abortion or rupture with hæmatocele, when the patient is in good condition, a deliberate operation is done: the appendage involved is removed, the mass of clots is removed with the hand, semi-organized clots are picked away except those parts which may be intimately adherent to the bowel or mesentery; then the pelvis is carefully sponged out with salt solution, the abdomen is left full of salt solution, and the wound closed. Should the opposite appendage require removal, hysterectomy is preferred to bilateral salpingo-oöphorectomy.

When the hæmatocele from a ruptured tubal pregnancy has suppurated, vaginal incision and drainage is the operation of choice. As abdominal section in the non-suppurating cases of hæmatocele has

been without mortality, and as the various conditions present can be more thoroughly and satisfactorily dealt with from above, there is no advantage in substituting colpotomy in this class of cases.

There remains the class of cases which must be operated upon during shock and acute anæmia from hæmorrhage, in which the abdomen is more or less filled with liquid blood, and the pelvis filled or not, as may be, with clots. Some years ago, before the general use of transfusion and hypodermoclysis in the treatment of hæmorrhage and shock, one was less able to deal successfully with such cases than at present. The involved appendage should be rapidly secured and tied off, large masses of clots should be removed by hand, and then the abdomen washed out with an old-fashioned Tait irrigator. Too much time should not be taken to wash out every portion of blood, nor in removing semi-organized and firmly attached clots. The abdomen should be left filled with salt solution and the incision rapidly closed. In such cases much should be sacrificed to rapidity in operating, and it is well to introduce salt solution by hypodermoclysis before operating, to use strychnine and digitalis in full doses, to keep the patient warm by the application of hot-water bottles; and after operation, if the condition of the circulation demands it, to introduce salt solution by intravenous transfusion. C. P. Noble (Amer. Gynec. and Obstet. Jour., Mar., 1900).

## FEMALE INEBRIATE, CHILDREN OF THE.

A study regarding the children of the female inebriate seems to warrant these propositions:—

1. Maternal inebriety is a condition peculiarly noxious to the vitality and to

the normal development of the offspring.

2. While its influence, particularly as measured by the test of infant-mortality, appears to be exercised in considerable degree indirectly through deterioration of the *milieu*, a large part also depends on the primary action of the poison. The reality of this latter mode of influence is evidenced by the tendency to still-births and abortions, by the frequency of epilepsy in the surviving children, by the prevalent mode of death, and by the effects of modifications of the intoxication.

3. This primary influence of alcohol is due, in part, to the effects of the poison on the maternal organism; in part, to a direct toxic action on the embryo, owing to continued excesses during pregnancy and lactation.

4. The first of these modes of primary influence is by its nature permanent, with a tendency to increase. The second mode, while tending also to a constant and constantly-increasing operation, is susceptible of temporary augmentation or diminution.

5. Under these combined modes of influence the normal tendency of the family with alcoholic maternity is toward a type the inverse of the syphilitic family; that is to say, the first-born children are normal, then come more or less defective children who live beyond infancy, then children dying in infancy, then still-births, and, finally, abortions.

6. Deviations from this type are probably due in many cases to oscillations in the intensity of the second mode of influence. Deviations originating in this fashion may be seen, for instance, in the death in infancy of the earliest-born children of the family as a result of emaciation in drunkenness, and in the survival of late-born children when the mother



has been imprisoned during part of pregnancy. W. C. Sullivan (*Quarterly Jour. of Inebriety*, Apr., 1900).

### FRACTURES OF THE ANKLE.

There are three little practical points of importance to be emphasized in connection with the treatment of fracture of the ankle: First, whatever other precautions may be taken in the treatment of this fracture to obtain a good result one should always place the foot at a little less than a right angle; second, in case of a painful joint following Pott's fracture, the foot should be fixed for a period of about six weeks at a little less than a right angle, the patient being permitted to walk without the use of a crutch; third, this can easily be accomplished by applying the plaster-of-Paris cast with the knee in a flexed position.

If these practical points are observed, fractured ankles are not painful after the fracture has healed, and those which are painful after other methods of treatment will be free from pain in a few weeks, notwithstanding the fact that they may have resisted the ordinary forms of treatment for weeks, or months, or even years. A. J. Ochsner (*Amer. Jour. of Surg. and Gynec.*, Apr., 1900).

### HÆMORRHAGE IN PENETRATING WOUNDS OF THE CHEST.

**Treatment.** When the wound of the lung is giving only slight hæmorrhage, the external wound should be closed with gauze and the physical signs of bleeding should be watched for. When the hæmorrhage is more marked, the chest is to be opened, a small drainage-tube inserted, and the admission of air regulated according to the difficulty of respiration in the patient. When the hæmorrhage is large and its symptoms alarming, the chest should be opened and a large drainage-tube inserted so as to form a road

and complete pneumothorax, and at the same time, when necessary, salt-solution should be injected into a vein. When this does not control the hæmorrhage, one or more ribs are to be resected and the bleeding radically dealt with. In severe hæmorrhage from a lung, the first object of treatment should be to get pressure on that lung. By opening the chest, air will do this as well as blood in the pleura; it will do it instantly instead of waiting until a sufficient amount of blood has been poured out; it will save to the patient the amount of blood necessary to exert this mechanical pressure; it will permit the vessels to close by clots; and the remote benefits are that it eliminates the dangers of a pyothorax or of universal adhesions of the pleura. The danger from engorgement of the right side of the heart must be slight where the patient has lost much blood. Because it is a great danger in a full-blooded dog is no reason why it should be so in an exsanguined man, for the conditions are different and the cases not parallel. These are personal views, and are not indorsed by the majority of surgeons, but they are the result of experience, and seem logical and correct. R. G. Le Conte (*Phila. Med. Jour.*, Apr. 14, 1900).

### HYDROA ÆSTIVALE.

**Diagnosis.**—Hydroa æstivale has been at times confounded with syphilis. It begins in the early years of life and recurs annually or with more or less periodical regularity. There are erythematous spots, vesicles, and bullæ on the face or exposed parts. The blebs rupture without becoming purulent, and the scars left behind are the chief cause of its being mistaken for syphilis. This simulation has even extended to the destruction of an alar nasi. Crusting lesions in the centre, where there may be an attempt at

umbilication, and extends to the periphery. After the crust falls one may find a depressed cicatrix.

Instances as early as the fourth and eighth month are recorded. It is at this age only that bullous syphilis can enter into question, since in subsequent attacks there is the history of periodical recurrence as a guide.

Other diseases to be distinguished from this summer eruption are variola and vaccinia—generalized bullous. Both of these are found elsewhere than limited to the exposed parts. Still if localized forms of these affections are accepted in common with varicella, doubt may arise. C. W. Allen (*Jour. Amer. Med. Assoc.*, Apr. 7, 1900).

### KERNIG'S SIGN.

It is not fair to call Kernig's sign simple inability to extend the leg on the thigh. Kernig states that if one lays the child down and flexes the thigh on the abdomen it can extend the leg; but that if one sits the child up in bed and then flexes the thigh on the abdomen it cannot extend the leg, although it could do so when lying down. During the last year a considerable number of cases of cerebro-spinal meningitis have been personally seen in which Kernig's sign was reversed; that is, the leg could be extended when sitting up and there was inability to extend it when the patient was lying down. Kernig's sign is a good sign as an aid when other signs are not positive. Its absence in infants is easily explained by the condition of normal hypotony in young babies.

The question of particular importance is the fact that the absence of Kernig's sign might possibly make one err in thinking that a case was not one of meningitis, but simply one of meningismus, a diagnosis otherwise often extremely dif-

ficult to make. F. A. Packard (*Annals of Gynec. and Ped.*, Mar., 1900).

### LIVER, SYPHILITIC CIRRHOSIS OF THE.

**Diagnosis.**—The syphilitic liver is liable to be mistaken clinically, and, as a matter of fact, is frequently mistaken for the alcoholic liver: an error which in view of the remedial power of antisyphilitic remedies may be a disastrous one. One helpful symptom in such cases is the existence of signs of perihepatitis, pain and tenderness over the liver, and pyrexia. When these exist in marked degree and are at all persistent, they afford a presumption in favor of the syphilitic nature of the affection. The charts of temperature afford valuable indications of the existence of perihepatitis. Perihepatitis does occur in pure alcoholic cases, and in connection with Bright's disease, but, according to personal observation, it is not so constant or so extreme as in syphilitic cirrhosis. W. B. Cheadle (*Lancet*, Mar. 31, 1900).

### NEPHRITIS AND PREGNANCY.

Where true nephritis exists before or begins in pregnancy, the disease, as a rule, is a more serious matter than in the non-pregnant state, and the prognosis is unfavorable. In the case of chronic nephritis, an acute exacerbation is usually induced. The patient may die from kidney failure, and uræmia is very apt to occur. Only in a small percentage of cases are the phenomena of eclampsia noted, as has been pointed out by Fehling and Leyfert.

As regards the influence on the course of pregnancy, the tendency to premature emptying of the uterus is to be particularly noted. According to P. Müller, it occurs in more than 30 per cent. of cases. It is attributed to various causes, viz:

hæmorrhages into the placenta, causing infarcts and destruction of portions of the chorionic villi, or separation of the placenta. The foetus may die as a result of the accumulation of toxic material in the system, and this is an important cause of the premature expulsion. The foetal mortality is very high. Hofmeier noted that the foetus died in twenty out of twenty-three cases of nephritis. Braun has estimated the mortality at 80 per cent. J. C. Webster (*Jour. Amer. Med. Assoc.*, Apr. 21, 1900).

### NEPHRITIS IN CHILDHOOD IN THE COURSE OF MALARIA.

As a result of personal observations it has been found that malaria plays the same part in respect of acute nephritis in the young as does scarlet fever in the cold and temperate climates. The cases in question often pass unnoted, probably on account of their usual benignity.

As regards its clinical character, this nephritis does not markedly differ from that accompanying other infectious diseases. It is, however, of a shorter duration, and nearly always terminates favorably. The œdema also, contrary to what is usually observed elsewhere, sometimes involves nearly the whole body, constituting a true anasarca. The secretion of urine is more than usually diminished, reaching occasionally the point of uræmia, which does not generally last more than twenty-four hours. Albuminuria is almost constant; in certain cases, however, it disappears for short intervals. The proportion of albumin varies greatly, according to the case and the time of examination. The amount is not always in proportion to the intensity and duration of the nephritis. The presence of hyaline casts, incrustated or not with epithelial cells, has in almost all the cases made sure the nature and seat of the complica-

tion in question. Moncorvo (*Pediatrics*, Apr. 15, 1900).

### NEURALGIA. CASTOR-OIL IN THE TREATMENT OF.

Dr. Ochsner's results in the treatment of facial neuralgia have been brilliant, he having had as many as thirteen consecutive cases that had come to the surgical clinic at Rush Medical College for operation, all relieved, or greatly improved, by the use of castor-oil.

During the last two years about 15 cases of neuralgia have been personally treated by this method, but only 7 of these were under observation sufficiently long to enable one to speak definitely of the results of the treatment. Five of these were neuralgias of the facial nerve, and 2 were typical cases of brachial neuralgia.

The results in acute neuralgias have been better than those observed in the chronic; but, even in the latter, only 1 failure can be charged to the method.

The oil is administered in the morning before breakfast, and the dose is from 1 to 2 ounces. Castor-oil, if kept for some time, and as it is ordinarily found, is quite offensive to most people, but it is very much improved by a thorough washing and the addition of a few drops of the essence of anise to each pint of oil. The most efficient means of administration is in ale—preferably Dogshead, or Bass's ale, which contains a large quantity of gas, and which should be poured from the bottle in such a way that the glass contains a large quantity of foam. The oil is poured into the ale, stirred a few times with a spoon, and then may be drunk without fasting the oil. The mixture with the ale forms an emulsion, and there is much less liability of the oil's disturbing the stomach. When first administered, the oil acts freely on the



bowels, but, if it is continued daily, its cathartic effect rapidly diminishes, and it is not infrequent for patients to state that they have but a single movement of the bowels after the third or fourth dose. H. N. Moyer (*Jour. Amer. Med. Assoc.*, Apr. 21, 1900).

The administration of castor-oil has been the personal routine treatment for trifacial neuralgias since the fall of 1896. It has been employed in at least a dozen cases, and, with two exceptions, always to the great benefit of the patient. Before determining on its use it is necessary to make an accurate diagnosis. Migraine and other headaches are very frequently mis-called neuralgic, and the castor-oil is of no avail in such headaches. H. T. Patrick (*Jour. Amer. Med. Assoc.*, Apr. 21, 1900).

#### OBSTIPATION — HYPERTROPHY OF THE RECTAL VALVE.

In hypertrophy of the rectal valve, the patient is the subject of more or less chronic obstipation, he sometimes makes frequent partially successful attempts daily at defecation, but may experience an unrequited desire for stool. The patient acquires the reprehensible physisic habit. In time the periods of obstipation may be interrupted by diarrhoea. There is an ineffectual straining at stool except for fluid faeces. Later the diarrhoea occurs with greater frequency, and ultimately long periods of diarrhoea may ensue, which are interrupted by a transitory constipation and obstipation. All these symptoms may be accompanied by increasing degrees of flatulence and borborygmus, and from time to time the patient is subjected to attacks of intestinal autointoxication, and finally he becomes neurasthenic. On account of the especial non-sensitiveness of the rectal valve the patient's sufferings are not uniformly re-

ferred to this region by himself, but in many instances, however, the intelligent patient is prepared to present his physician with a ready-made diagnosis of rectal obstruction. T. C. Martin (*Columbus Med. Jour.*, Apr. 1900).

#### OPHTHALMIA NEONATORUM.

**Treatment.**—Case of a baby between two and three weeks old in whom ophthalmia neonatorum had developed into a most critical condition. There was a profuse purulent discharge issuing from both eyes and so much chemosis and swelling of the lids that it was difficult to make a satisfactory inspection of the cornea of either eye, but it was determined that the cornea was involved and about to break down in each eye. On carefully considering the case it did not seem that continuing the ordinary methods of treating eyes in such cases would preserve much sight for the child, but it was thought that if the eyes could be thoroughly douched and all the secretions from the conjunctiva kept washed away there would be some chance of saving sight. Acting upon this suggestion, a Davidson syringe was used, and the No. 1 point was pressed between the lids at the outer canthus and a stream of tepid water containing about 1 per cent. of boric acid was thrown into the eyes until a quart or more had been used for each eye. The point of the syringe was always directed away from the eyeball and was gradually worked along the whole length of the retrotarsal fold so that the conjunctival sac was thoroughly washed out. The douching of the eye was repeated every half-hour night and day for the first twenty-four hours, then less frequently, and at the end of the fifth day the baby was opening its eyes and looking about the room. The cornea cleared and recovery was complete.

The same method of douching has been carried out on two other cases in about the same critical condition, with the same happy result.

In the case cited a 2-per-cent. solution of nitrate of silver was used from the first, and the eyes were cleansed with spray, pipettes, and absorbent cotton. When the child came under personal care the 2-per-cent. solution of nitrate of silver was continued daily, care being taken that it did not reach the cornea, cold packs were applied to the lids between the intervals of douching, and the nourishment of the child was given all the attention possible.

It is believed that the douche properly carried out will be as efficient to check the disastrous course of those cases of purulent conjunctivitis which have arrived at a critical condition, as here described, as Credé's method is in preventing them from reaching this critical condition. E. E. Holt (*Jour. of Med. and Sci.*, Apr., 1900).

### PALPITATIONS. ABDOMINAL.

The symptom of abdominal palpitation is commonly associated with functional disorder of some viscus or other, and is commonly regarded as an effect of it; hence treatment is directed to the supposed cause, with the usual unsuccessful results. It is personally thought that one has to deal with a condition of high tension in a limited arterial area, to wit, in the abdominal aorta and the adjacent iliac arteries. In these cases there is usually a low-tension radial pulse, the blood being concentrated on a splanchnic arterial area to the privation of a somatic. With a view to restoring circulatory equilibrium, a small—say,  $\frac{1}{2}$  to 1 grain—dose of nitroglycerin should be given when an attack of palpitation sets in. This remedy has been employed with

constant success. Willoughby Wade (*Ther. Gaz.*, Aug. 15, '99).

### PEMPHIGUS NEONATORUM.

**Diagnosis.**—Pemphigus neonatorum is distinguished from syphilis by freedom of palms and soles, the little tendency to suppuration, to confluence of pustules, or to the production of ulcerative lesions (ecthyma), and by the absence of history and other signs of syphilis. The general health is fairly good, and no marked evidence of cachexia is present. It is also to be distinguished from the hereditary predisposition to bullous formation from slight injury—epidermolysis—and from the effects of too-hot bathing, hot-water bottles, etc. C. W. Allen (*Jour. Amer. Med. Assoc.*, Apr. 7, 1900).

### PERITONITIS. DIFFUSE SEPTIC.

**Treatment.**—In diffuse septic peritonitis excellent results have been obtained by raising the head of the bed and drainage of the pelvic cavity by means of properly placed and protected glass drains. The elevation of the bed from the horizontal should be at least from twelve to fifteen inches. In order to prevent the patient from sliding down in the bed a large pillow is placed folded beneath the flexed knees, and upon this the buttocks rest. The pillow is prevented from sliding by a piece of stout bandage passed through at the folded portion and secured to the sides of the bedstead. Of nine consecutive cases of diffuse septic peritonitis treated by the combined methods of elevated posture and drainage, all have resulted in recovery. This method is offered as preferable to Clark's position, which is the exact reverse of this treatment. Clark's position, certainly does not empty the pelvic cavity of septic fluid, for the extent to which the patient must be inverted to accomplish this is incompatible with safety, or with his comfort,

to say the least, since practically he must be placed standing on his head. This was demonstrated by Dr. Eastman, the resident pathologist at the Brooklyn Hospital, in a series of experiments performed upon cadavers at personal request. G. R. Fowler (Med. Rec., Apr. 14, 1900).

### PNEUMOTHORAX.

From an analysis of fifty-one cases of pneumothorax found in the medical records of the Boston City Hospital, the following conclusions are formed: Pneumothorax is an uncommon condition. At least 70 per cent., and probably 85 per cent., of the cases of pneumothorax are tubercular. The prognosis is good when it is due to trauma. It is fair when the pneumothorax is secondary to abscess of the lung. The results of excision of the ribs in these cases are very encouraging. Tubercular pneumothorax is much more common in men than in women. It is most frequent in the third decade. It is about twice as frequent on the left as on the right side. The onset is acute in rather less than half the cases. Sudden pain with dyspnoea are the most common initial symptoms. The pneumothorax may be the first symptom of tuberculosis noted. Displacement of the heart always occurs, being more marked in the left-sided cases. The pneumothorax is usually complicated by the presence of fluid, but may be simple. Air is rarely present alone in cases living more than a week. The fluid is more often purulent than serous. Recovery from the pneumothorax may occur in about 15 per cent. of all cases. The cases which recover are practically all serous. They usually die later, however, from pulmonary tuberculosis. The pneumothorax is the direct cause of death in 60 per cent. Eight per cent. of all cases die in less than a year, and only 10 per cent. live over five

years. The prognosis is worse in right-sided than in left-sided and in purulent than in serous pneumothorax. It is worse in women than in men. Surgical intervention is at least worthy of consideration in the purulent cases. Patients with pneumothorax are sometimes able to be up and about and even to do manual labor. J. L. Moore (Amer. Jour. Med. Sci., May, 1900).

### REFLEXES. DEEP.

The importance of the deep reflexes in the diagnosis of organic spinal-cord disease is of limited value and chiefly confined to focal lesions which affect the spinal centres included in the reflex arc or in the tracts of the cord which have undergone more or less extensive degenerative changes. In locomotor ataxia they are generally abolished, although, in some cases where the lesion is confined to the lower segments of the cord, the patellar-tendon reflex may persist. In anterior myelitis involving extensive lesions they are abolished. In localized myelitis there will be considerable variation in this respect, depending on the location of the lesion with reference to the particular reflex arc and the extent of involvement of the cord-structures. In neuritis of the crural nerve the knee-jerk is lost, except in the earlier stages of the disease, and this will depend on the intensity of the inflammation. In multiple neuritis the same is true, except that it involves a wider range of reflexes. In spastic spinal paralysis, amyotrophic lateral and multiple spinal sclerosis, the reflexes are exaggerated. In syringomyelia the reflexes are abolished if the focal lesion is in the anterior horn or in the posterior columns; if in the crossed pyramidal tract, the reflexes will be exaggerated.

In functional nervous diseases or in



bid states of the nervous system the reflexes are changed in character. In hysterical paraplegia, according to Gowers and Mills, the ankle-clonus is abolished. The majority of neurologists, however, contend that in about 20 per cent. of the cases the ankle-clonus is present. Mills also contends, from recent observations, that the patellar clonus is absent in hysteria, but admits that "it is not improbable that patellar clonus will be found in those cases of hysteria in which hypertonicity and the diathesis of contracture are present—some cases of spastic and convulsive hysteria; cases of tetany and some cases with choreic and athetoid phenomena."

In pure neurasthenic cases personal observation is that in a considerable number the knee-jerk is increased; not exaggerated as in the spastic condition, but merely increased.

The real diagnostic value of the deep reflexes can only be determined by a very careful consideration of the facts in the case, and by a careful study of the reflex itself. There is no certain and absolute guide as to the intensity of a normal reflex. About five hundred presumably healthy men who were applicants for service with a railroad company have been examined, and a great variation was found in the extent of movement of the leg when the patellar tendon was struck. In about one in a hundred there was no response. In a somewhat larger proportion the reflex could be obtained on reinforcement. In about 4 per cent. the reflex was large and would appear to be exaggerated. But on comparing this increased reflex with the exaggerated one of spastic spinal paralysis the difference would at once be seen.

A consideration of the reflexes alone will be misleading in determining the nature of a spinal-cord disease, or in dis-

tinguishing absolutely between an organic or functional affection of the nervous system, but, when taken in connection with the other symptoms, will be of considerable value in reaching a conclusion. On account of the considerable variation in the normal reflex, however, they must be studied with great care, or the examiner will be led into error regarding the value which may legitimately be attached to them. D. S. Fairchild (*Jour. Amer. Med. Assoc.*, Apr. 7, 1900).

### RETROPERITONEAL ABSCESS.

**Diagnosis.** — The symptoms and signs of retroperitoneal abscess from perforation of a duodenal ulcer are somewhat as follows: After the initial symptoms of perforation have passed away, there is constant pain in the right side of the abdomen, accompanied by an elevation of temperature, and great tenderness over the hypochondrium and to the right of the navel. If the pus makes its way behind the colon in the direction of the iliac fossa, the area of tenderness increases, and a swelling appears above Poupart's ligament on the right side, which presents the ordinary features of an abscess. If unrelieved, the pus may travel across the hypogastrium and present in the other groin, or it may gravitate into the pelvis and point beside the rectum. Occasionally the perinephritic tissue is invaded, and great pain is experienced in the loin, with swelling, tenderness, and perhaps a "squishing" sound on percussion, owing to the mixture of gas and pus. In these cases the matter may either present in the loin or burst into the colon. W. Soltau Fenwick (*Edinburgh Med. Jour.*, Apr., 1900).

### RHEUMATISM, ACUTE ARTICULAR.

**Treatment.** — The treatment of acute articular rheumatism at the New York Hospital is as follows: Rest in bed and

a milk diet are employed during the presence of acute symptoms. After their subsidence the diet is increased to fluids, and then to "fluid and soft," as the appetite returns. The bowels are carefully kept open, salines being avoided in weak, anæmic subjects, and employed in plethoric persons. Elimination is also encouraged by the liberal use of alkaline mineral waters. The patients are kept in bed for several days after symptoms disappear.

Treatment by alkalies has not proved satisfactory in many acute cases. Internally, sodium salicylate is chiefly relied upon, in doses of 10 to 15 grains every three hours except between 9 P.M. and 5 A.M. The frequency is reduced as the pain and temperature abate. If mild toxic symptoms develop, they are controlled or diminished by the administration of sodium bromide, 30 grains with each dose of sodium salicylate, when it is deemed advisable to push the action of the latter as far as possible instead of diminishing the dosage.

If sodium salicylate is not well borne by the stomach, salol, in doses of 5 grains every three hours, and salophen, 15 to 20 grains, have been satisfactorily employed. The salicylate of sodium has also been administered recently by rectum in a few cases for the same reason. A dosage of 30 grains in 2 ounces of water every three hours, and later three times a day, has been employed.

In nearly all cases internal medication has been supplemented by local application of methyl-salicylate, which has invariably given excellent results in rapidly relieving pain in the affected joints. This is renewed daily until the local symptoms subside. Methyl-salicylate, the synthetical oil of wintergreen, is applied upon a thin compress of gauze wrapped around the joint and covered by gutta-percha tissue, which is held in

place by a bandage. The initial sensation of burning is soon followed by relief of local pain.

If fluid persists in the joints after the other symptoms disappear, a cantharidal blister or tincture of iodine is applied; and if infiltration of the surrounding tissues or stiffness of the joints remains, it is relieved by hot-air treatment. The anæmia accompanying the attack is combated with iron, arsenic, strychnine, and codliver-oil; the cardiac and other complications are carefully watched for, and are treated by the usual methods in such cases and by increase of the salicylate.

Rheumatic hyperpyrexia is rarely met with, but, when encountered, is treated by large and frequent doses of sodium salicylate and the tub-bath at a temperature of 65° F. for ten minutes every three hours. Hughes Dayton (*Med. Rec.*, Apr. 7, 1900).

### SEPTICÆMIA, PUERPERAL.

Immediately after the birth of the child, or while it is being born, the mother should be turned on her back, and kept there, at least until the binder is applied; or, better still, she should be kept on her back as much as possible for a week. When the patient is lying on her side, and especially when she gets into a position somewhat like the Sims position, air is very apt to be sucked into the uterus, and sapræmia is apt to be induced. An elevation of temperature during the puerperal state may be due to various causes, such as influenza, indigestion, emotions, etc., as well as septicæmia; but if one has the slightest reason to suspect that it is due to something within the uterine cavity, it is well to explore it thoroughly. Under such circumstances the intra-uterine douche is not sufficient. The patient should be thoroughly anesthetized, and the hand introduced into

the vagina and the fingers into the uterus. The walls of the uterus should be thoroughly scraped with the finger-tips, which make the best curette. The uterine cavity should then be washed out with hot water (medicated if one likes), and afterward packed with iodoform gauze, which may be left in one or two days. This treatment is especially satisfactory if the patient has sapræmia, but will be useless for septicæmia, which is due to the absorption of septic matter in tears of the vulva or vagina. A. H. Wright (*Canadian Pract. and Review*, Mar., 1900).

#### SEXUAL FUNCTION, THE CORRELATION OF, WITH INSANITY AND CRIME.

From a study of the evidence upon the correlation of sexual function with insanity and crime, these conclusions are reached:—

(a) That the correlation of insanity and disordered sexual functions arising out of affections of the generative organs is a factor to be taken into serious consideration in the treatment of women mentally afflicted.

(b) That, where there is ground for the suspicion that some abnormal condition of the uterus or adnexa exists which may produce or aggravate the mental affection, a careful examination, under an anæsthetic, if necessary, should be made.

(c) That in the investigation of criminal acts committed by women, either during the menopause or while the menstrual function is either active or suppressed, due weight should be given to the influence exerted by its irregularity or abeyance on the mind of the woman. In doing this, her previous history and temperament have to be considered.

(d) That the special dangers of the climacteric period and the symptoms in-

dicative of threatening mania must be collected. The principal of these are moroseness and depression of spirits, attacks of hysteria, occasional hallucinations of sight and hearing, and especially of smell, suspicions with regard to relations, unjust dislikes, unfounded apprehensions of some great crime committed or injury inflicted on them, suicidal tendencies. Here, again, examination of the pelvic viscera is called for.

(e) That in operations on the female generative organs there is a greater predisposition to mental disturbance than after other operative procedures; further, post-operative insanity is usually of a temporary nature.

(f) That women who have been previously insane are predisposed to a relapse by the development of disease in their sexual organs, and especially to temporary recurrence of insanity after operation on these organs. H. Macnaughton-Jones (*Annals of Gynec. and Ped.*, Mar., 1900).

#### SPLENIC PSEUDOLEUKÆMIA.

**Diagnosis.**—In the diagnosis of splenic pseudoleukæmia one has to distinguish:—

1. Cases of idiopathic splenic enlargement without any anæmia or any other symptoms, which are not very uncommon.

2. Pernicious anæmia, in which a slight enlargement of the spleen is almost always present, and sometimes a very considerable one. The diagnosis here depends upon the constitution of the blood, which, in the disease now being considered, presents characteristics of an ordinary secondary anæmia, or, as Osler says, of chlorosis. One may easily lay too much stress upon the distinction supposed to exist between the blood of chlorosis and that of secondary anæmia.



There really is no such distinction to be made. Chlorosis is simply a secondary anæmia occurring in young girls without any cause that one can put his hands upon. The low color index, which is a great feature of the blood of chlorosis, is found in any relatively-mild case of secondary anæmia.

3. One must distinguish the disease from cirrhosis of the liver. The association of anæmia, ascites, hæmorrhages from the stomach, and enlargement of the liver would, in many minds, be sufficient for the diagnosis of cirrhosis, which would not be contradicted by the splenic enlargement, since a very considerable enlargement is itself a symptom of cirrhosis. The fact that a certain degree of interstitial overgrowth has existed in some of the post-mortem records makes this differentiation from cirrhosis all the more difficult. Altogether the differentiation between these two diseases *intra vitam* must be a very difficult one in many cases.

4. Splenic tumor associated with chronic malarial poisoning must also be excluded. In persons living in a malarial district the absence of malarial parasites at any one period does not seem sufficient evidence for excluding a chronic malarial infection.

5. From leukæmia the disease may be easily and quickly distinguished by the blood-examination.

6. The anæmias of children are very frequently associated with enlargement of the spleen, with or without leucocytosis, and their classification is still entirely unsatisfactory. As a rule, such cases are associated with and usually considered secondary to rickets or syphilis, and the existence of either of these diseases would differentiate a case otherwise identical with Banti's disease. R. C. Cabot (Boston Med. and Surg. Jour., Apr. 26, 1903)

## SPONGE-BATH, ICE COLD.

The following is, in personal experience, the best way to give an ice-cold sponge-bath: A large rubber sheet is spread over the bed; the patient is wrapped in a cotton blanket and placed in the centre of the rubber sheet, so that a towel may be turned to hold the water escaping from the wet sponge. Hot-water bottles are placed at the feet, and cold cloths or an ice-lag on the head. The limbs are wrapped in bath-towels wrung out of ice-water while sponging the back and chest. The direction of sponge is from the head to the feet, with long, light, steady strokes. A sponge is better than a rag, and one not too soft should be chosen. With the sponge one can more easily remove the water from under the patient, so that he need not lie in the pool of water. Better results are obtained by sponging the back for a greater length of time than any other portion of the body.

With a sensitive patient one may wring out strips of cheese-cloth in very hot water, place one thickness quickly on the patient and sponge over it with ice-water, or one may begin with tepid water and gradually cool it, being careful to keep the ice used in this process, wrapped in cloths, so that it will not rattle against the sides of the bowl, and give the patient a chill in anticipation of what is to follow.

A stimulant is usually given to the patient before or during the bath. After the bath the sponges and cloths should be thoroughly disinfected by bringing them out of hypochlorite solution 1 to 1000.

Care must be taken not to sponge too long, as the temperature may frequently continue to fall for an hour or two after the ice-bath.

In case of convulsed lowering of the temperature or if it goes below normal,

stimulants and hot-water bottles are to be applied. The ice-bath is seldom given in anæmic or septic cases, or where there is extreme emaciation or valvular disease of the heart. Mary L. Mulholland (So. Calif. Pract., Mar., 1900).

### STOMATITIS, DIPHThERIAL.

**Diagnosis.**—A membranous stomatitis may be due to several different microbes, including the diphtheria bacillus, and it may be impossible to distinguish a genuine diphtherial stomatitis from other forms (conveniently classed at present as diphtheroid stomatitis) by a mere inspection of the mouth or by the presence or absence of general symptoms. Hence the importance of making a bacteriological examination in cases of membranous stomatitis in order to recognize the actual contagium of the disease, and to isolate the cases of genuine diphtherial stomatitis. E. F. Trevelyan (Brit. Med. Jour., Apr. 14, 1900).

### TONSILLITIS, FOLLICULAR.

**Treatment.**—In follicular tonsillitis complete evacuation and cleansing of these follicles of their infectious contents offer the speediest cure. For this purpose two accessory instruments are especially adapted to enter the follicles, the tonsil-scoop, the curette end of which consists of an oval, blunt, miniature spoon with a bowl sufficiently large to engage the entire contents of a single follicle with each introduction of the instrument, and, as an additional convenience in the applications of medications to the follicles after curettement, a flexible applicator, consisting of a nickel-plated soft-copper wire with a tapering shaft, the end of which is faceted to securely hold a bit of twisted cotton. Each crypt or follicle is thoroughly cleansed with the tonsil-scoop; then into each cleansed

follicle the applicator, well armed with a small tuft of cotton saturated with pure guaiacol, is carefully introduced, precaution being taken not to spread the medication over the surface of the tonsil, but directly into the depth of the crypts.

Protargol (10-per-cent. solution), trichloroacetic acid (saturated aqueous solution), and Loeffler's solution have been used in a similar way with equally favorable results.

These applications are to be made at intervals of eight hours, and, if the cases are seen in the early stages of infection, but two and, at most, three applications effect a cure.

The following gargle completes the local treatment:—

R Liq. ferri chloridi, 1 drachm.

Glycerini, 1 ounce.

M. Sig.: Teaspoonful in glass of water. Gargle every two hours.

In addition to the local treatment, the greatest stress is laid on three therapeutic factors. 1. A brisk purge, preferably produced by a saline draught, such as 8 to 16 ounces of magnesium citrate. 2. A good sweat as induced by pilocarpine hydrochlorate,  $\frac{1}{12}$  to  $\frac{1}{8}$  grain, followed by wrapping the patient in blankets in bed. 3. Thorough saturation of the system with sodium benzoate and sodium salicylate. M. A. Goldstein (Laryngoscope, Apr., 1900).

### TONSILS, INFECTION THROUGH.

Personal conclusions regarding infection through the tonsils may be summed up in the following statements:—

1. The tonsils are active and useful organs whose function it is to offer a barrier to the entrance of organisms into the deeper tissues at a point which, by its location and construction, is very open to infection.

2. The tonsils act in this respect as do other lymphadenoid tissues in the body, as is best exemplified by the lymphatic glands.

3. That during the course of or following tonsillitis we may have occurring most of the important complications of typical acute articular rheumatism.

4. That acute articular rheumatism is an infectious disease, dependent possibly upon no one organism, but upon a variety of bacteria.

5. That the phenomena of rheumatism can be accounted for by toxin-absorption.

6. That the toxin causing rheumatism may be produced by an attenuated micro-organism.

7. That it is possible that the frequent entrance of the micro-organism by way of the throat may explain the fact that we have acute articular rheumatism developing after an invasion of the throat rather than the ordinary septicæmia or pyæmia, for the reason that just beyond the port of entry there is situated a collection of lymphadenoid tissue capable of restraining the growth and virulence of micro-organisms attacking the membrane which it protects.

8. That the terms rheumatic pleurisy, rheumatic purpura, rheumatic erythema, and rheumatic sore throat should be used with less freedom, and that it would be more correct to look upon them as the result of infection, whether accompanied or not by articular phenomena, rather than as latent, aborted, or incomplete forms of a condition produced by an unknown, mysterious, and intangible rheumatic poison. F. A. Packard (Phila. Med. Jour., Apr. 28, 1900).

### TYPHOID BACILLURIA.

Of 39 typhoid-fever cases taken at random in the wards and the urine examined on several occasions, 28 never contained

typhoid bacilli, while 11 contained them in large quantities, constituting a percentage of 28. In London, then, at all events, it will probably be wiser to say that at least 75 per cent. of all cases present this serious and dangerous condition. Very commonly the bacilli are present in enormous numbers, so that the urine is rendered turbid. Out of 14 recent cases in which this point was especially looked for, in 12 the urine was turbid with bacilli, while in 2 only was it noted as "clear," and the microbes were accordingly first discovered on cultivation. The enormous numbers in which the micro-organisms may be present, though it increases the danger of the complication, brings with it the advantage that the condition can be recognized, or rather suspected, more easily. Indeed, this can often be effected by the naked eye. All that is necessary is to pour the turbid urine into a test-tube and then holding it up to the light gently to shake it. If the turbidity be due to the presence of micro-organisms, there is noticed at once a curious shimmer in the liquid exactly comparable to that seen in shaking any turbid broth-culture, a phenomenon which is not seen when the urine is cloudy from other causes, such as phosphates, urates, etc., probably because the amorphous particles of which these deposits consist are unable to catch and reflect the light in the same way as the regularly-shaped bodies of the bacteria. In the female much less reliance can be placed on a mere inspection of a naturally-passed urine than in the male, the sources of contamination being too great.

The bacilli may make their first appearance in the urine at any period of the disease, from the early days of the fever down to a time when convalescence is already established. Speaking generally, however, the condition is rare before the



third week of the disease. The duration of the bacilluria also varies much, but it nearly always persists for some considerable time. The shortest duration recorded is eight days. Occasionally it may persist, not only for months, but for years.

Although albuminuria is not conspicuous in these cases, it is not at all uncommon to find pus, sometimes even in considerable quantities. Thus, of 17 cases, 9, or over 50 per cent., showed pyuria. The urine in nearly all cases was acid. It was never ammoniacal. P. Horton-Smith (*Lancet*, Mar. 31, 1900).

### VAGINITIS.

**Treatment.**—The treatment in the acute stage of vaginitis is aimed at relieving the pain, the swelling, and the congestion. It consists of rest in bed, free purgation, hot fomentations, douches where they can be borne, soothing applications being used, such as a teaspoonful of borax and of liquor plumbi subacetatis, to each pint of water.

In the second stage, even in gonorrhoical vaginitis and vulvitis, one has to use more astringent injections, the best of which are sulphate of zinc or tincture of iodine, 2 drachms to 3 pints; or lysol, 1 drachm to 3 pints. Such douches should be used, not with a Higginson syringe, but with a douche-can, placed six feet above the patient, who should be recumbent on a bed-bath.

Supposing the vaginitis has become chronic, the treatment is very much the same, and it ought to be quite definite.

Some such treatment as the following in any case of prolonged vaginitis is more likely to cure the patient at one sitting than weeks of douching: The patient should be douched, then, in the lithotomy or side position, the largest speculum that one can use should be passed, and

all discharge from the vaginal walls should be wiped away as the speculum is withdrawn, every spot which is red being noticed. Sometimes there are bleeding-points, sometimes inflamed points; and on all such spots 10-grains-to-the-drachm solution of nitrate of silver is to be applied. One must take care that no excess of the solution is allowed to trickle down over the perineum. Then the speculum is to be passed again, and the vagina is to be tamponed with iodoform gauze, which should be left in for twenty-four to forty-eight hours. When the gauze is removed, the vagina is again inspected, and the application repeated; or, if this does not seem necessary, lead and borax douches should be daily used. If the endocervix is involved, that must be treated, or the vagina may be reinfected. Sometimes in a very chronic case it may be necessary to scrape the endocervix, and then apply the nitrate of silver, or pure carbolic, or iodized phenol; but, as a rule, one of these agents used three or four times at a week's interval will effect a cure without scraping. In rare cases stronger caustics or the actual cautery may be required. Some cases seem to yield to no treatment, and yet get cured after the treatment has been stopped. Amand Routh (*Clin. Jour.*, Apr. 18, 1900).

### VARIOLA. TREATMENT OF. BY BICHLORIDE BATHS.

Thirty-six cases of variola, of which one was hæmorrhagic and thirteen confluent, have been treated by R. L. Yeager and personally without mortality, by means of bichloride baths. The method of giving the treatment was as follows: A six-foot bath-tub was placed beside the patient's cot and filled with a fairly-warm—103°-105° F. solution of bichloride, 1 to 10,000, and the patient placed

therein, head and shoulders above the solution; the nurse then went over the entire body, using a soft cloth, being careful of force applied so as not to cause much pain. After remaining in the bath about ten or twelve minutes, the patient was removed, thoroughly dried, dressed in freshly-laundried clothing, and placed in a clean bed.

These baths were given night and morning. After removal from the bath the patient expressed much relief, but shortly after, owing to the drying effect, complained of a burning sensation "just beneath the skin." All were likewise affected, so, to obviate this, a routine practice was begun of anointing patients immediately after the bath with a mixture of carbolic acid, bismuth subnitrate, and olive-oil, with a very happy result.

The following deductions can be made in regard to this treatment: 1. There is practically no mortality. 2. The suppurative fever can be shortened four to six days if patient is treated from the onset. 3. A minimum of pitting is secured and an almost entire absence of the characteristic, disagreeable odor. 4. The period of desquamation is materially lessened, owing to the thinness of the scab-formation. 5. Pain is much reduced, morphine being rarely indicated. 6. The great distortion of features, which gives such repulsive-looking patients, is eliminated to a great extent. H. A. Ingalls (Jour. Amer. Med. Assoc., Apr. 28, 1900).

## WOUNDS. TREATMENT. WITHOUT SUTURES. OF SUPERFICIAL.

To obtain good union, it is important to observe a few first principles. The wound must be aseptic and the skin clean. The latter can be cleaned with soap and hot water, close shaving, and alcohol. Asepsis of wound and skin is then made sure by a carbolic dressing, with dressings of absorbent cotton which have been soaked a few minutes in a 1 to 500 solution of bichloride of mercury. As soon as the parts are dry enough for the collodion to adhere, the edges of the wound are brought together and secured by cotton and collodion alone, or with the help of narrow strips of isinglass plaster moistened with the bichloride solution, or by similar strips of muslin or linen painted over with a thin coat of fresh flexible collodion. The thinnest possible layer of dry, aseptic absorbent cotton is to be applied, and it should overlap the angles and edges of the wound far enough to have a firm hold on the skin.

After four or five days the entire covering may be removed; better still after eight days. Or the dressing may be left on from ten to fourteen days, when it may be removed by peeling it off dry or by moistening it with a little ether.

This dressing is applicable in extensive and angular lacerations of the scalp, the skin of the nose, the face, the lips, the ears, the hands, the thigh, the calf of the leg, and after the excision of glands and small growths. J. F. W. Whitlock (Med. Rec., Apr. 14, 1900).

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[End of the Editorial Department of the Monthly Cyclopædia for May, 1900.]



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## Cyclopædia of the Year's Literature.

### DIABETES MELLITUS.

**Diagnosis.**—J. B. Herrick<sup>1</sup> notes the occasional low specific gravity of the urine in diabetes. It may be even lower than the normal; hence all urine should be tested for sugar, regardless of its specific gravity. Just preceding the attack

of coma casts may become very numerous. Formerly this was considered accidental. Cases have been personally seen in which casts appeared in the urine twenty-four hours before coma came on;

<sup>1</sup> Med. Rec., May 3, 1900.

therefore it is thought that their presence may forewarn one of the coming attack.

Side by side with the all-important subject of diabetes, Robert Saundby<sup>2</sup> considers it necessary to study the occurrence of non-diabetic glycosuria. Of other agents than sugar which may reduce copper, uric acid, creatin, and creatinin are not usually present in sufficient quantities to cause reduction unless the urine is concentrated. Besides these, reduction may be caused by such abnormal substances as glycuronic acid, chloroform, chloral, salicylic acid, etc., which, when present, cause a very well marked precipitate of suboxide of copper.

For some years the method recommended by the late Sir William Roberts has been used personally, of filtering a few drachms of the urine repeatedly—that is, seven or eight times—through animal charcoal in a small filter. The filtration removes all other reducing substances except sugar, while the reduction, if due to sugar, becomes even better marked than before. Examples of pseudoglycosuria are not uncommon.

In all persons it is possible to produce alimentary or physiological glycosuria by administering a sufficient dose of grape-sugar, this dose varying in different individuals between 300 and 500 grammes of syrup of grape-sugar. Some persons become glycosuric after eating or drinking an unusual, but nevertheless not very excessive, quantity of sugar.

Alcoholic glycosuria may be intermittent or constant.

Although some cases of alcoholic glycosuria have had evidence of chronic hepatitis (cirrhosis) and some of the cases classified as hepatic glycosuria may really be alcoholic, there are others of the latter which seem to be above suspicion.

Several times the association between

gall-stones and glycosuria has been observed, but during attacks of biliary colic the glycosuria generally disappears.

Gastric glycosuria has been personally noted nine times, and in none of the cases was there any reason to suspect alcohol, although this factor is, of course, possible.

Glycosuria also occurs in a certain number of neurasthenic cases without other discoverable cause.

The glycosuria which occurs in old people who are suffering from senile decay is not associated with any of the symptoms of diabetes, but is sufficiently marked to cause a free reduction of copper. As the glycosuria in these cases must be regarded as a symptom of general tendency to break down, care must be exercised in ordering strict diabetic diet. The treatment of these cases of non-diabetic glycosuria by diabetic diet is not advocated. In old people it is especially necessary to be cautious, and while there can be no harm in stopping sugar and sweet wines, one should hesitate to deprive them of bread or potatoes, or any farinaceous food they are in the habit of taking.

**Diet.**—Frederic Kraus, Jr.,<sup>3</sup> regards the following as the best way of finding out the proper diet in individual cases: The patient is put for one day on a "standard" diet, as von Noorden calls it, which contains, besides the indifferent albuminous and fat-producing material, a certain amount of carbohydrates; for instance, 100 grammes of wheat-bread per day, which contain about 60 grammes of carbohydrates. Then the patient is told to collect twenty-four hours' amount of urine (he must begin with the urine passed immediately after

<sup>2</sup> Brit. Med. Jour., Apr. 14, 1900.

<sup>3</sup> Med. Rec., May 12, 1900.

the first breakfast and finish with the urine passed the next morning before breakfast). This method is used in all cases in the clinic for diabetics of Professor von Noorden at Frankfort-on-the-Main. Then the amount of sugar passed during twenty-four hours is ascertained by polarization and titration, or by polarization before and after fermentation, to find out also the amount of substances which turn the plane of polarization to the left.

There are now three possibilities: (1) that there is no sugar at all; (2) that there is less; (3) that there is more than 60 grammes of sugar excreted with the urine. The first, one finds in all mild cases of diabetes and in all cases of non-diabetic glycosuria. In all of these cases after a period of four to five days the daily portion of carbohydrates should be increased by a certain amount, between 30 to 50 grammes of bread or an equivalent of carbohydrates in another form. The urine of the last day of such a period is now collected in the formerly-described way, and this is continued until a trace of sugar is found in the urine; then one knows what amount of carbohydrates the organism is able to assimilate: *i.e.*, "its tolerance for carbohydrates." Then the patient is kept for one or two days on a very strict diet, in order to make the traces of glycosuria disappear entirely, and thereafter the amount of carbohydrates in his diet is increased gradually day by day up to the highest amount which he is found able to assimilate.

In the other cases in which glycosuria is found the amount of carbohydrates in the patient's diet is reduced until a diet is obtained as free from carbohydrates as possible. This reduction must be effected gradually. The patient is then kept on that strict diet for three or four days; on the last day the urine is collected in the

formerly described manner, and, if traces of glycosuria are still found, such periods of strictest diet may be repeated, or one may even, if one fails to free his urine from glycosuria, restrict the amount of albuminous food, substituting fat for it. The fat is then given with certain vegetables which contain a very small percentage of carbohydrates, which amount can be reduced still further by a certain method of cooking. But during all this time the greatest care is necessary: such a severe diet must be interrupted if the patient is rapidly losing in weight, and the urine must be carefully examined to find whether there is azoturia, whether the amount of acetone is high, and whether diacetic and oxybutyric acids are in the urine. It is also advisable to give large quantities of bicarbonate of sodium daily, to avoid hyperacidity of the blood (Naunyn, Stadelmann, Magnus-Levy).

After the glycosuria has disappeared, one begins again to add small doses of carbohydrates to the diet till the highest limit is reached, proceeding as in the mild cases. Periods of abstinence increase the assimilating force and the continued use of carbohydrates diminishes the same; therefore the patient should also be told to include from time to time, at regular intervals, three to four days of strict diet; for instance, the last three to four days of each month or every second month. These intervals are to be chosen according to the severity of the case. After these four days the carbohydrates are to be increased again up to the allowed amount. The urine is to be examined immediately before the periods of strict diet, in order to ascertain if there is any change in the amount of glycosuria. In other cases, in which it is impossible to suppress the glycosuria, even by strictest diet, the patient must be allowed a cer-



tain, though small, addition of carbohydrates to his daily diet.

It is always advisable to add the given carbohydrates to the more copious meals,—dinner, lunch, and supper,—and to avoid them more or less at breakfast. The best way is to give those carbohydrates which the patient is accustomed to have; first of all to allow him a certain quantity of the bread he is in the habit of eating. It is only necessary that the prescribing physician should know approximately the percentage of carbohydrates in those articles of food he is willing to put on the patient's diet-list. During the first few weeks the patient will have to use scales, but later on he will learn to guess the weight of his food articles by their size, etc. Surrogate food is, in the most cases, easily avoidable.

Alcoholics used moderately and with careful selection deserve a place in the diabetic diet-list, but any toxic effect is to be excluded.

It is best to send the patient, as soon as the diagnosis is made and other circumstances allow it, into clinical treatment, either to a hospital or, if the patient has means enough, to one of those private clinics which are entirely devoted to diabetic patients.

The balneotherapeutic treatment maintains its place in the treatment of diabetes, and the many good results attained thereby rather speak in its favor, although strictly clinical experiments have shown no results at all.

J. A. Cutter's<sup>4</sup> personal experience has led him to believe that tuberculosis and diabetes run very close to each other. In the dietary treatment of diabetes broiled chopped beef, 1 to 3 pounds a day, hot water before meals, also some tea or coffee if desired, are of great value. The dietary should be enlarged as rapidly as possible, examination of the urine being

the guide. Beef is far superior to milk in making more nerve and tissues, with the least expenditure of nerve-force in digestion. The broiled chopped beef is to be prepared as follows:—

The first-class top of the round of animals which have been killed at the age of about four years and not over-driven just before death should be bought. With an Enterprise Chopper No. 10, Old Style, the white, fibrous tissues are to be removed from the muscle-pulp (the new machine chops up all the meat and fibrous tissues). This is done by cutting the beef into pieces one by three inches, and running them through the machine. When the machine clogs at the end, the ring should be unscrewed and the white, fibrous tissue cleared out, which has to be thrown away. It is generally necessary to run the red meat through again, and sometimes even three times in all. This red muscle-pulp should then be molded (not too firmly together) into a cake about one and one-half inches in thickness, and several inches wide, and broiled over a bed of good live coals, or a gas-stove, turning often. In preparing the beef, one should not touch it any more than is necessary with the hands. If the beef is good and rightly prepared and broiled, it will be of a dark-brown color on the outside, and when opened will be reddish, but not raw, on the inside: best served on a hot-water plate. It is quite an art to prepare this rightly, and, if attention is not paid to all the details as to buying and preparation, the result is not good. If everything, however, is right, the result is very palatable. It can be seasoned to taste with pepper, salt, not too much butter, Worcester-shire sauce, horse-radish, or lemon-juice, as desired.

<sup>4</sup> Med. Bull., May, 1900.

The appetite occasionally palls, and one can resort to other preparations; but the standard of progress is determined by the study of secretions.

**Operations in.**—Arthur L. Fisk<sup>5</sup> states that from a review of opinions of various well-known surgeons, and from personal limited observations, it appears that the presence of glycosuria in those individuals who may have surgical diseases does not in itself constitute an absolute contra-indication to any and all surgical relief. Very great judgment must be exercised in the selection of cases, in the determination of the kind and extent of the operation to be performed, and the strictest surgical asepsis must be rigidly observed throughout. Infection, when it occurs, is from without, and is the result of an error in the technique; it thus happens that the constitutional symptoms become most serious, and out of all proportion to the local, generally ending in death. When infection does not occur, the operative wounds heal kindly, but slowly, especially in granulating wounds. The vascularity of the tissue must be interfered with as little as possible; so that every operation should be planned with this object in mind. This is particularly so in gangrene of the extremities, in which the statistics of Heidenheim, Kuster, and Smith and Durham show most conclusively the necessity of high amputations in these conditions. Personal opinion is that it is better to cut down upon and ligate the artery in gangrene of the extremities rather than to attempt the bloodless amputation by means of the Esmarch band, in consequence of the possible harm to the tissues, especially the blood-vessels, whose vitality is not of the best.

Howard Lilienthal<sup>6</sup> remarks that in youthful individuals a certain type of diabetes occurs which is peculiarly malig-

nant. The rules, therefore, which have been laid down in regard to operating upon adults who suffer from diabetes must be modified when one is dealing with children, and only operations of emergency should be undertaken, as the disease usually runs a rapidly-fatal course in these patients.

## DYSENTERY.

**Diagnosis.**—Kenneth MacLeod<sup>7</sup> thinks that the examination of the intestinal evacuation in dysentery has an importance, in relation to diagnosis and treatment, similar to the examination of the sputum in phthisis—similar, but greater; for in phthisis the results of physical examination are more clearly demonstrative of the nature and stage of the disease than inspection, palpation, and percussion of the abdomen in dysentery.

The technique of "washing" dysenteric stools for examination was first introduced into practice by Dr. A. Goodale, and is as follows: The stool is received into or transferred to a vessel of considerable capacity,—the pan of a commode, for example. This is filled with water poured from a height of a foot or so, from a jug, ewer, or tap. Masses may, if necessary, be broken up by a glass rod or stick. After allowing the material to settle for a minute or so, the fluid is slowly decanted into another vessel, so as to present to view a thin layer. The feculence floats and passes over with the fluid; the pathological products and heavy particles of feculence subside. What passes out is carefully watched and noted, and what remains may be again and again washed by adding fresh volumes of water and decanting, until the material has been

<sup>5</sup> *Annals of Surg.*, Apr., 1900.

<sup>6</sup> *Ibid.*

<sup>7</sup> *Edinburgh Med. Jour.*, Apr., 1900.

freed of offensive and compromising stuff, when it may be transferred into a white plate or dish for examination. In most cases of dysentery accurate study of the intestinal discharges cannot be made in any other manner.

The information gained by this process of washing the stools may be summarized as follows:—

1. The color of the fluid indicates the amount of blood contained in the evacuations, according to the depth of the tint when it is sanious.

2. The size, shape, and character of feculent masses when solid may be noticed, and inferences may be drawn as to the condition, calibre, and tone or irritability of the diseased gut.

3. The nature and activity of the digestive process may be inferred from the state of the excreta. Undigested masses of meat or farina may be seen, or curdy lumps or imperfectly-digested milk observed.

4. The character of the ingesta may be determined. Imperfectly-masticated and undigested pieces of potato, vegetables, or fruits are easily identified, and grains of unboiled rice or sago discerned, and seeds of oranges, figs, grapes, etc., described. Many of these things sink and are seen amid the residuum. The dieting of the patient can thus be very effectually watched and controlled.

5. The lighter particles of mucus float in the water, and this may be flocculent or tenacious—clear, rosy, branny, or ropy. Inferences are drawn from these characters as regards the stage and intensity of the dysenteric process and effects of treatment. Clear or rose-colored flecks indicate an early (catarrhal) stage; branny particles, a dysentery undergoing satisfactory cure; and ropy masses, a slower process of recovery in a more protracted case.

6. The residuum may show blood-clots of various kinds and sizes, masses of jelly-like mucus, lumps of more solid inspissated mucus, and casts or exuviae of various sorts. These latter are the most important pathological products, indicating a grave malady of some standing, and destructive lesions of varying kind and degree. The nature of the destructive process may be surmised from the character of these casts or sloughs. They may be pulpy and circular; or oval, soft, and disruptible; yellowish or greenish, consisting of a pus-infiltrated mucosa, and representing castings off of an inflamed mucosa or submucosa. They may be stringy, tenacious, and angular, consisting mostly or entirely of detached submucosa. They may be greenish or drab-colored; thick, large, or cylindrical; the result of coagulation-necrosis of an extensive diphtheritic deposit on and in the walls of the intestine. They may be dark, pulpy, offensive, and soft, due to a process of gangrene. The relation of these different products to diagnosis, prognosis, and treatment is obvious and most important.

7. The products thus obtained can be subjected to further examination,—for bacteria or amœbæ, for example,—or preserved with spirit or carbolic water for further study.

8. The results of treatment may to some extent be judged. Changes in the character of the evacuations are best appreciated when these are subjected to this system of analysis. Pills or tabloids may be seen which have passed through unaltered and unused. Grains of ipecacuanha or other powders, or of reduced bismuth, may be observed, which perhaps increase or perpetuate the irritation.

The intelligent treatment of dysentery necessitates continuous and systematic examination of the stools.



**Etiology.**—In a paper read before the Congress of American Physicians and Surgeons<sup>8</sup> Simon Flexner said that physicians need not be reminded that the attempt to establish a common etiological factor for all cases of dysentery has thus far failed. That this failure to emphasize the existence of several pathological states for which the term dysentery is employed merely as the collective designation need not be defended. But that these conclusions regarding the disease may, after all, not be in keeping with the facts is, at least, open to suspicion. When one recalls the protean nature of other infectious diseases, among the most common of which are tuberculosis and typhoid fever, there can be no *a priori* objection to the hypothesis that the causative agency of dysentery need not necessarily vary for each of the many types of the disease that have, from time to time, been distinguished.

Roger<sup>9</sup> claims to have isolated a pathogenic micro-organism from the evacuations of seven cases of dysentery. The bacilli are not unlike the anthrax bacillus in appearance. They differ from it, however, in being shorter and in having rounded ends. They are also motile, and they do not stain with Gram. These bacilli rapidly liquefy gelatin; coagulate milk, giving it an acid reaction; and form a green color when grown on slices of artichoke. Injected into the veins of rabbits, the pure cultures kill more or less rapidly, according to the virulence or the dose. Other cases of diarrhœa, not dysenteric, have been examined, but the bacillus just described could not be found.

**Treatment.**—W. J. Buchanan<sup>10</sup> has treated 555 cases of dysentery by salines, with only 6 deaths, or a percentage case-mortality of only 1.08; 453 of the cases were met with in Bhagalpur, Bengal.

The following mixture was found satisfactory for general use:—

R Sodii sulphatis, 1 ounce.

Aque fermentill, ad 4 ounces. —M.

Of this mixture  $\frac{1}{2}$  ounce is given three or four times a day. Purgation should be free, but gentle, and, when bright-yellow stools without a trace of blood or mucus are passed, then the drug should be stopped, but resumed at once if blood or mucus reappear in the stools. It is usually found that, after five or six stools, all blood and mucus have disappeared, but in many cases they reappear in a day or so; in such cases sodium sulphate must again be given.

Chronic and relapsing cases are treated chiefly by dieting and patience. On their first coming to the hospital they are given sodium sulphate for one, or at most two, doses, and then bismuth and soda or other intestinal antiseptics. For every exacerbation—that is, for every return of blood and mucus—a dose of sodium sulphate is given, or, if scybala are passed, a dose of castor-oil and laudanum. Intestinal worms are not infrequent in chronic cases, and, when such are seen or suspected, santolin or male fern should be given. Salines (except in the limited doses mentioned above) are considered as harmful in cases where there is ulceration of the great intestine. In ordinary cases the acute stage under this treatment is over by the third or fourth day, and if the stools remain free from dysenteric products, a tonic of iron or nux vomica and quassia is given.

Important and useful as is the saline treatment, yet dieting is equally so. For native patients (to whom alone the above figures refer) the following diet has been

<sup>8</sup> Med. News, May 3, 1900.

<sup>9</sup> Le Progr. Méd., Oct. 14, '90.

<sup>10</sup> Brit. Med. Jour., Feb. 10, 1900.

used during the past fifteen months: For new acute cases what is known in India as *mar* and *dahi* are given, 8 ounces of each two or three times a day. *Mar* is made as follows: 1 pound of fine, well-cleaned rice is thoroughly boiled with 3 pints of water, and then strained. There should then result a white, starchy substance of the consistence of porridge. *Dahi* is only "tyre," and is made daily from the milk. The two are mixed together by the patient, and eaten. This is given at 10 A.M. and 5 P.M. At 7 A.M. half the quantity is also given, except when bael fruit is in season, when bael is given instead of the *mar*. All the above patients were kept on this diet for two or three days, till the stools become semi-solid, when rice-milk and soup are added. Full dice diet is only given when the patient has passed solid-formed stools for one or two days.

When bael fruit is obtainable, it is good to give it along with the *dahi* for the early morning meal. This is especially necessary for chronic cases, to whom also mango pickle or other antiscorbutic is also given. The bael is given in the form of a sherbet, with sugar.

C. T. W. Hirsch<sup>11</sup> asserts that dysentery is endemic in Fiji, and occurs among the European settlers, natives, and introduced Indian and Polynesian immigrants. Acute dysentery usually runs a favorable course. The greater number of cases recover in from seven to fifteen days.

The treatment that seems to answer best is perfect rest in bed, milk diet, if the stomach is able to retain it; otherwise, raw meat-juice, barley, rice-water, sago, arrowroot, or Mellin's food. Stimulants and egg-flips are of value if pulse is weak, especially among natives, and hot applications to the abdomen, such as poultice, or fomentations with turpen-

tine if much pain. Ipecacuanha in 20-grain doses should be given three times a day. Keratin capsules for the administration of the ipecacuanha assist greatly in the retention of the drug.

The treatment of a case is usually best started with castor-oil, 1 ounce; tincture of opium, 10 to 20 minims. Opium need rarely be administered again, though if the ipecacuanha is not retained, the administration of the drug may be preceded by the opium tincture, 5 to 10 minims.

In chronic dysentery liver-abscess is a common sequel. Treatment consists of perfect rest in bed. A change of air is doubtlessly good, but in advanced cases should only be undertaken after mature consideration, as all movement is bad for the patient. Great care should also be taken to prevent chill. Milk diet is to be given if the tongue is clean and not glazed or raw; in such cases, meat-juice diet, with sago, arrowroot, or Mellin's food are to be substituted. Unless general debility indicates, alcohol (spirits) had better not be given.

In some cases light-boiled eggs and fish may be given, but generally liquid, soft diet is best. Many cases are benefited by the application of a cold compress to the abdomen. Enemata of nitrate of silver ( $\frac{1}{2}$  drachm to  $1\frac{1}{2}$  drachms to 4 ounces or 5 ounces of water, with a little starch in it) give good results in the majority of cases, and one such enema can be given every night for five or six days. Some cases do better with small enemata (about 4 ounces) of lukewarm water with a little antiseptic in it, quinine, boric, or Condy; in these cases the water may be passed high up the bowel through a soft catheter. Internally, ipecacuanha does not seem to have much effect. Bael fruit occasionally has a good effect; so has pome-

<sup>11</sup> Edinburgh Med. Jour., Jan., 1900.

granate-root, and large doses of simaruba. Accompanying debility and anæmia may, when no acute inflammatory action is going on, be treated with mineral acids, cinchona, or iron tonics.

A. N. Wilkinson<sup>12</sup> has found powdered cinnamon an excellent remedial agent in all cases ranging from ordinary diarrhœa to severe cases of dysentery. It may be given in teaspoonful doses mixed with a little milk to mold it into the shape of a bolus, and chewed night and morning.

## PLAGUE.

**Incubation.** — F. G. Clemow<sup>13</sup> asserts that when plague is contracted through a wound or abrasion received during a necropsy on a plague cadaver or through the conjunctiva, the incubation period is usually from two to three days, and is probably somewhat shorter than when contracted in the more usual manner. When contracted in the ordinary manner the interval between exposure to infection and the onset of symptoms is usually from two to seven days, but it may be as short as twenty-four hours, and it may be extended in rare cases to a period of several weeks. In the vast mass of cases it is impossible to know at what moment the virus actually enters the tissues of the patient, but it is reasonable to believe that in those cases where the interval between apparent exposure to infection and the onset of symptoms has been very long the virus has for a considerable portion of the period been preserved in fomites outside the body of the patient.

For practical purposes it has been generally agreed to regard the maximum incubation period of plague as ten or twelve days.

**Diagnosis.** — W. J. Simpson<sup>14</sup> asserts that the difficulty of diagnosis of plague arises from the several types and forms which it assumes. In Bombay some of

the earlier cases, with swollen cervical glands and throat symptoms, were mistaken for diphtheria. In Jeddah, where lung symptoms predominated, the earlier cases were taken for influenza; and in Calcutta, where the ambulant or mild form, with buboes, occurred, some of them were attributed to syphilis, others to non-venereal buboes or malaria, and others to injury due to a strain or accident. It will thus be evident that a disease which may be mistaken for yellow fever, gastro-enteritis, typhus fever, diphtheria, influenza, syphilis, malaria, and parotitis is one in which diagnosis from clinical symptoms alone is by no means easy.

**Etiology.** — Cantlie<sup>15</sup> observes that the infection is usually carried by the food, although it may enter by the respiratory channels or by the skin. In the second it is probably only by means of the sputum, for it is improbable that the breath carries it, and in the latter it is through an abrasion or wound. It is more readily transmitted to certain animals than to man. Rats, for instance, placed in clean cages next to others inhabited by affected animals may become infected, whereas the danger of healthy human beings' becoming infected by persons ill of plague is remote. Rats and mice are the great transmitters, through their fæces getting into human food, or through flies alighting on their affected carcasses and afterward upon human food. The bacilli will not keep alive in grain more than six or seven days, but wherever there is grain there is likely to be rats, and by them the infection may be kept alive indefinitely.

From a study of plague in the lower

<sup>12</sup> Brit. Med. Jour., Feb. 10, 1900.

<sup>13</sup> Lancet, May 26, 1900.

<sup>14</sup> Phil., Apr. 14, 1900.

<sup>15</sup> Practitioner, May, 1900.



animals, F. G. Clemow<sup>16</sup> asserts that the following animals are liable to contract plague under natural conditions: Monkeys, rats, mice, bandicoots, squirrels, and marmots. Of these, rats suffer far the most frequently, and are, of all animals, the most important agents in the spread of the disease. Mice are less susceptible, but appear, in some instances, to have suffered considerably, and may have been agents in spreading the infection. Monkeys, bandicoots, and squirrels have, on rare occasions, suffered from plague, and there is nothing to show that they have ever aided to any extent in diffusing the disease in man. Marmots undoubtedly spread a disease allied to plague in Transbaikalia, and possibly in Mongolia. The evidence in regard to cats, dogs, and jackals is far from conclusive, but there is no reason to believe that these animals play any great part in spreading plague. The same is true of pigs, sheep, and goats. Horses and cows do not appear to have ever contracted plague under natural conditions, and may be disregarded as active agents in spreading it. Birds are equally immune to the disease, and there is no evidence to show that either birds, reptiles, or fishes have ever aided in multiplying and diffusing the infection. Insects, on the other hand, are probably agents of considerable importance in the spread of plague.

**Pathology.**—H. F. Harris<sup>17</sup> states that there are three well-defined forms of plague: (1) the bubonic, which may be mild or malignant; (2) the pneumonic form, which may be primary or secondary; and (3) the septicæmic variety.

In a post-mortem study of the malignant variety of the bubonic form it has been found that the bodies of those dead of pest show early post-mortem lividity, and the post-mortem rigidity comes on remarkably quickly and is very firm. The

temperature of the body often increases after death, going as high as 108° F. in some cases. The skin often shows petechiæ, and in a small percentage of cases carbuncles exist.

On opening the body the serous membranes are found very dry, and there are not infrequently ecchymotic spots on their surfaces.

Any of the lymph-nodes may be primarily affected, but in about half of the cases those of the groin first show the disease; of the remaining half about 50 per cent. occur in the axilla. The more superficial nodes are, as a rule, first affected, but generally the disease quickly extends to the entire chain to which the gland that is first affected belongs. The other lymph-nodes of the body in a short time become swollen more or less. The tissues surrounding the nodes primarily diseased, are much swollen, and may exhibit hæmorrhagic foci. The nodes themselves are enlarged to many times their normal size. On section they are found to be quite firm if the process is recent or not very violent; but they are very soft if the disease is severe or well developed. In the very severe form the contents of the nodes may be found to be semifluid in consistence, and somewhat mucilaginous, or the material found within them may resemble lard. It is rarely possible to distinguish the cortical and medullary portions from each other. The cut surfaces present a grayish-red color, which generally shows here and there darker areas of hæmorrhage, or, quite as often, the entire contents of the node are of a dark-red color. The nodes in other parts of the body which swell present, on section, the usual appearance, hæmorrhages within their substance

<sup>16</sup> Brit. Med. Jour., May 19, 1900.

<sup>17</sup> Phila. Med. Jour., Apr. 7, 1900.

never occurring, unless the implication is in the nature of a relapse.

On microscopical examination the tissues surrounding the glands show evidence of swelling, the smaller blood-vessels—especially the veins—are all irregularly dilated and there is a considerable collection of lymphoid cells and red blood-cells in the lymph-spaces and channels. All of the blood-vessels contain many pest-bacilli; these germs are not found in the tissues nor lymphatics. None of the tissue shows evidence of change, without the necrosis extends through the capsule.

The tissues composing capsules of the nodes are also much swollen, and present, in every instance, the same alterations which are seen in the tissues surrounding, except that all of the lymph-spaces and lymph-channels contain multitudes of the bacilli. The same alterations are seen in the trabeculæ which pass into the substance of the nodes.

In those instances where the node has just been attacked or where the disease is of a mild character there is evident increase in the number of cells within them, the vessels are dilated, and the lymphatic channels contain many bacilli. But when the disease is of a more virulent form or has existed longer, it is even impossible on microscopical examination to determine the exact limits of the cortical and medullary portions. Almost the entire gland-contents now consist of a finely-granular material, which is colored pink when stained by hæmatein and eosin or by the method of Van Gieson; intermingled with this granular material there are quite a number of cells and some cellular *débris*. If the section be stained by the toluidin-blue and glycerin-ether method, this granular material is found to consist of countless myriads of the pest-bacilli. The cells which have

just been referred to as still occurring in the nodes consist, for the most part, of lymphoid cells, but intermingled with them are quite a number of hyaline cells, many of which are actively phagocytic. In some of the phagocytic forms as many as 30 to 40 pest-bacilli were found, and the hyaline cells were observed in all stages of degeneration. Immediately following the hyaline cells, as regards the number present, are mast-cells. The mast-cells never appear to be phagocytic; but it was observed that around many of the cells there is a zone in which no bacilli lie. The presence of the mast-cells is of much diagnostic importance, as they have never been personally seen in any other lesions of lymph-nodes. There are also a few plasma-cells and a few polymorphonuclear leucocytes. In addition to the cells mentioned there are great numbers of red blood-cells lying scattered everywhere through the necrotic tissues.

The blood-vessels in all parts of the nodes are dilated to the last degree, and their walls have suffered greatly.

Lymph-nodes from parts of the body at a distance from the original focus of the disease only show to the unaided eye some swelling and a somewhat darker color than is normal. On microscopical examination the cells of which the nodes are composed are found to be apparently somewhat increased, and the blood-vessels are dilated. In several cases these vessels usually contain bacilli, but they are not found in the gland-substance.

An important complication of the ordinary bubonic form of the plague is pneumonia. Those who have studied the lesions consider that the changes are practically those that are observed in broncho-pneumonia from other causes.

The spleen is increased in size. On section it is found to be dark in color and quite soft. There are numerous hæmorrhages

rhagic areas in its substance. The bacilli are always found within the organ.

The kidneys may be normal in size or somewhat enlarged. Here and there areas of hæmorrhage into the tissues are seen.

The liver may be of the usual size, but it is generally somewhat enlarged. On section it may present a pale color, or, what is more frequent, it is of a darker-red color than normal. The minute capillaries between the rows of cells are dilated and filled with much more blood than is normal; the larger vessels show the same alteration. The bacilli are abundantly present in the blood of all these vessels.

Macroscopically, the mucous membrane of the intestine and stomach show hæmorrhagic foci, and the lymph-nodes are enlarged.

The brain and meninges usually appear somewhat congested, and in rare instances fibrinous meningitis and meningo-encephalitis have been found.

**Prophylaxis and Treatment.** — Walter Wyman<sup>18</sup> states that the disease can be easily controlled by careful isolation and sanitation, one of the best disinfectants for rooms being formaldehyde-gas. All evacuations, sputum, clothing, bedding, etc., should be disinfected, and the patient kept isolated for one month after apparent recovery. Among those attendant on the sick, 1 cubic centimetre of the Haffkine prophylactic should be injected once a month. The only curative is the antipest serum of Yersin and Roux, 30 to 50 cubic centimetres of which should be injected at the earliest possible moment. This may also be used as a prophylactic in dose of 10 cubic centimetres repeated every ten days.

When individuals have been exposed to the contagion of plague, W. F. Arnold<sup>19</sup> says the hypodermic injection of

5 cubic centimetres of antitoxin serum of Yersin should at once be made, and it is wise to repeat the injection in a short time. The protective power of these injections does not exceed fifteen days.

In the preparation of this antitoxic serum the process is to administer intravenously, at first in very small numbers, progressively increasing quantities of living pest-bacilli, until the animal acquires a marked degree of immunity, and 0.1 cubic centimetre of serum from its blood becomes capable of protecting a mouse weighing 25 grammes against a culture of the living organism. When this stage is reached the serum is drawn from the horse and is stored in hermetically-sealed tubes for use.

Perhaps of even greater value as a protective is the prophylactic fluid of Haffkine. This consists of a solution of the metabolic toxic substances which are produced during the growth of the plague-bacilli. For this reason the fluid should not be given to one who has been exposed to the contagion, as, in case he should be at the time developing the plague, the addition of these toxins to those already present in the body might produce disastrous results. But as a prophylactic measure, when the individual has not been exposed to the disease, there can scarcely be a doubt of its efficiency. The method of preparation is as follows:—

Haffkine prepares a bouillon for the cultivation of the bacilli as follows: A kilo of goat's flesh is chopped and heated at a pressure of three atmospheres for six hours in a weak solution of hydrochloric acid. The liquid is then filtered, neutralized, diluted with water to three litres, and sterilized. Some of this is

<sup>18</sup> Document 2165, Treasury Dept., Washington, 1900; Med. News, May 12, 1900.

<sup>19</sup> Phila. Med. Jour., Apr. 7, 1900.



placed in a flask and fresh plague-material added. If the plague-bacilli are present they will develop in from eight to fourteen days, and form a stalactite growth; it is then determined by the microscope if there be a pure culture. Flasks holding three litres of the bouillon are then inoculated if the culture be pure, and the bacilli are allowed to grow until there is again developed the peculiar stalactite growth; the vessel containing the growth is then shaken, until the colonies sink to the bottom, and the growth is allowed to re-form twice more, followed each time by shaking the vessel. When this has been done, which usually requires about six weeks, the bouillon is heated to 60° C. for three hours. The clear liquid is then decanted and placed in hermetically-sealed tubes, and may be used at any time. One to 2 cubic centimetres of the liquid are injected beneath the skin. But little reaction follows its use. The fluid confers immunity for a longer period than the serum of Yersin, but does not probably protect longer than thirty or forty days.

According to an editorial,<sup>20</sup> the therapeutic value of antiplague serum has been, by no means, decisively proved. British physicians who have investigated Yersin's cases place but little faith in his statistics claiming favorable results. The following is the report of the British plague commission treating of Haffkine's antiplague inoculation:—

1. Inoculation sensibly diminishes the incidence of plague attacks on the inoculated population, but the protection which is afforded against the attacks is not absolute. On the one hand, plague has attacked persons who have undergone inoculation as many as four times in the course of two years previous to their attack. On the other hand, as many as 8 per cent. of the inoculated population

may suffer from plague. Many varying influences have been at work in determining the rate of attack in different places, and it is impossible to give a numerical expression for the measure of protection against attack which inoculation confers.

2. Inoculation diminishes the death-rate among the inoculated population. This is due, not only to the fact that the rate of attack is diminished, but also to the fact that the fatality of the attacks is diminished. Here again no numerical expression for the amount by which the death-rate is diminished can be given.

3. Inoculation does not appear to confer any great degree of protection within the first few days after the inoculation has been performed. This fact, we may note in passing, has an important bearing on the risk of infection which would be incurred by recently inoculated persons if they were left behind in surroundings so plague-infected as to render their evacuation by the inoculated desirable.

4. Inoculation confers a protection which certainly lasts some considerable number of weeks. It is possible that the protection lasts for a number of months. The maximum duration of protection can only be determined by further observation.

5. The varying strength of the vaccine employed has apparently had a great effect upon the results which have been obtained from inoculation. There appears to be a definite quantum of vaccinating material which gives the maximum amount of protection, and provided that this quantum can be injected in one dose, and provided also that the protection turns out to be a lasting one, reinoculation might with advantage be dispensed with. The best results from inoculation

will only be obtained after an accurate measure of standardization has been devised.

G. Carleton Jones<sup>21</sup> observes that our knowledge of the prevention of plague has made great strides by the serum-therapy and serum-prophylaxis. The serum-therapy is Yersin's serum, the serum-prophylactic is the Haffkine prophylactic.

Haffkine says that 2 cubic centimetres will produce immunity; for how long a period is doubtful. Its use in India has been very gratifying. At Hubli over 4000 persons were inoculated once, with 45 cases and 15 deaths; over 3000 twice, with 2 cases and 1 death; and during this time 657 persons to the 1000 died in a single week among the uninoculated.

While the Haffkine prophylactic is only prophylactic in its action, and cannot be used in a case which has actively developed, the Yersin serum acts not only as a prophylactic, but can be administered during the course of the disease with marked effect, depending on the time injected and to some extent on the dose—30 to 50 cubic centimetres. The manufacture of both these agents is being now carried out in the laboratory of the United States Medical Hospital Service, at Washington. The only medicinal treatment advocated so far for plague is the administration of 4 drops of a 1-per-cent. solution of atropine every few hours till the effect of the drug on the pupil is noticed.

According to W. J. Simpson,<sup>22</sup> good nursing and stimulants will do much for the patient. The only known method attempting to deal with the problem is serum-therapy, and though Yersin's serum has fallen into disrepute since its failure, or comparative failure, in Bombay, yet it appears that it is on that system, or some allied system, that one may

hope to make any advance in the treatment of plague.

Out of 142 cases treated with the serum in hospital, 21 of the patients died, which is equal to a mortality of 14.78 per cent., while out of 72 cases treated at home without serum 45 patients died, which is equal to a mortality of 63.75 per cent.: *i.e.*, the mortality in hospital was about five times less than the mortality at home. Success seems to have been more certain when the serum was used in large doses and when employed intravenously; but the best results were obtained when, at the beginning of the illness or as soon as the patient came under observation, an intravenous injection of 20 cubic centimetres of the serum were given followed by two subcutaneous injections of 40 cubic centimetres each in the first twenty-four hours and by subcutaneous injection of from 10 to 20 cubic centimetres or 40 cubic centimetres on the next and subsequent days until the temperature fell to normal, and even for two days afterward. No ill results ensued from these injections further than an occasional erythema and articular pains, which were no more intense after the intravenous than after the subcutaneous injections.

G. M. Sternberg,<sup>23</sup> in speaking of the serum treatment used in Bombay hospitals, mentions the "Heilserum," which is prepared under the patronage of the Government at the Parel Government House, by the assistants of Professor Lustig, whose name it bears. The serum has not been extensively employed in India because of its scarcity, and also on account of the prejudices of the natives. It has, however, been used in some 500 cases, with 60-per-cent. recovery and 40-

<sup>21</sup> Maritime Med. News, Mar., 1900.

<sup>22</sup> Lancet, Apr. 14, 1900.

<sup>23</sup> Phila. Med. Jour., Apr. 7, 1900.

per-cent. mortality, while the death-rate in untreated natives may run as high as 80 per cent. Those who are engaged in making the serum maintain that much better results than those indicated in the above percentage can be obtained by increasing the number of healing units in the serum. In one of his articles Lustig states that he succeeded in curing completely 26 out of 30 cases of plague with his serum.

R. Row<sup>24</sup> says that in August and September, 1899, he tested atropine in the treatment of 97 cases of plague. To these he has to add the 291 cases of Major R. J. Windle and 78 cases treated by Dr. A. Turkhud in November and December. The most prominent feature observed in the treatment was the condition of the bubo, which either subsided completely or remained as a hard nodule, which in some cases when cut into showed a mass of slough with hardly any pus. Personal cases gave scarcely 14 per cent. of suppurations, and it was interesting to note that, the smaller the dose of atropine administered, the more frequently suppurations were found. Some cases not treated with atropine showed 84 per cent. of suppurations. The localization of the bubo indicated a favorable termination of the disease. In some cases even where 6 drops of liquor atropinæ sulphatis were given the pupils remained contracted, and these cases, as a rule, ended badly. Some cases seemed to be scarcely influenced by atropine, and these generally were associated with hæmatemesis: the black vomit of the yellow-fever type. However early these cases came under treatment, they appeared to be beyond control. Of the 97 patients under personal care in August and September, 53 died and 44 recovered. Of the 53 deaths 15 occurred in from two to twelve hours after admission; 14 patients died from

the second to the fifth day of treatment; all of them rallied and were conscious on the second day of treatment, but were carried off during a relapse. Seven died on the sixth and eighth days of treatment from chest complications. Three suffered from black vomit. Three suffered from septicaemia; 17 died in the ordinary course of the disease. Among the 44 recovered patients there were two pregnant women, one in the third and the other in the seventh month, neither of whom miscarried. In Major Windle's 291 cases there were 92 recoveries and 199 deaths, the recoveries being, therefore, 31.6 per cent. In these cases the mode of administration of the drug was a little different from that personally used. In Dr. Turkhud's 78 cases the recoveries were 33.4 per cent.; they were treated side by side with an equal number taken in an alternate order, but the latter had no atropine, and gave only 18.7 per cent. of recoveries. The total of 466 cases treated with atropine gave an average of 34.6 recoveries.

### STOMACH, CANCER OF THE.

**Diagnosis.**—In a study of 150 consecutive cases of carcinoma of the stomach William Osler and Thomas McGrath<sup>25</sup> have been very much interested in a group in which the disease was unsuspected during life. As Welch remarks, it is rare to find cancer of the stomach in an apparently healthy man dying of accident. The latent cases are most frequently met in old persons, in whom the symptoms may be very slight, or absent, or they are mistaken for the ordinary dyspeptic complaints of the aged. Even after the most thorough examination it may not be possible to reach a diagnosis. In obscure cases, particularly with dys-

<sup>24</sup> *Lancet*, May 12, 1900.

<sup>25</sup> *Phila. Med. Jour.*, Jan. 3, 1900.



pepsia and emaciation, the possibility of latent carcinoma should be borne in mind.

There are three groups of cases of latent carcinoma of the stomach:—

1. A very small one in general hospitals, a very large one in almshouses and asylums, comprising cases in which the symptoms are those of a gradual enfeeblement without any indication of local disease.

2. Cases in which, with an absence of gastric symptoms, the lesions of associated disease seem sufficient to account for the condition. In this group were 4 personal cases. In 2 the diagnosis of nephritis was made; 1 had advanced pulmonary tuberculosis with pneumothorax, and the fourth showed profound anæmia with multiple venous thrombi.

3. Cases in which the metastases completely mask the primary disease.

In reviewing this interesting series of cases, and particularly in the study of the autopsy records, one is astonished to notice how extensive and wide-spread the disease may be with practically no symptoms. In three of the cases a very large part of the stomach was involved, in two the cardiac orifice, and in two the pylorus. In one instance the growth involved the œsophagus, and in one to a slight extent the duodenum. In three instances there was ulceration, and in five metastases were present.

J. C. Hemmeter<sup>26</sup> says it seems reasonable that an early diagnosis of cancer of the stomach is extremely difficult to reach, chiefly because, as yet, one knows nothing of the causative factor in neoplastic growth. In 99 per cent. of cases of cancer of the stomach which have been operated on the patients have died of recurrence. In the 1 per cent. saved an early diagnosis was made: that is to say, the cancer was discovered before subject-

ive symptoms of gastric neoplasm had become evident. There is undoubtedly a period of three months—the incipient stage of the cancer—which is usually diagnosed as nervous dyspepsia or as chronic gastritis. These are very vital moments. If the case refuses to yield to good medical treatment, despite the absence of any subjective carcinomatous symptoms, recourse should early be had to the clinical tests. Absence of hydrochloric acid is valuable; but in those neoplasms derived from ulceration the acid is very generally present. Lactic acid is simply a sign of stagnation, and is due to carbohydrate fermentation. Although it was found in 84 per cent. of the cases, it is obviously of little value, for no stagnation can occur till the growth is too far advanced for operation. The Oppler-Boas bacillus was present in 53 per cent. of the cases. It is about as valuable as lactic acid due to stagnation. In regard to tumors, three-fourths of them are not palpable. The x-ray test is futile. As to the gastroscope, German reports give little hope. Gastric curettage is the very latest method of procedure. It is practiced with a weighted soft-rubber tube, run in and out. There is no hope of seeing carcinomatous architecture, but the cell-nuclei reveal certain changes now thought to be constant and characteristic. Mitosis is found to be irregular, one important feature being that the chromozones are not equally divided between the poles. If found, this is extremely suggestive.

Max Einhorn<sup>27</sup> thinks that a positive diagnosis of cancer may be made if the following conditions are noted: (1) if particles of tumor are found (in the wash-water or tube) which show the micro-

<sup>26</sup> Med. Rec., May 19, 1900.

<sup>27</sup> Boston Med. and Surg. Jour., Jan. 18, 1900.

scopical characteristics of a malignant growth; (2) the presence of a more or less large tumor with an uneven surface, belonging to the stomach and associated with dyspeptic symptoms; (3) the presence of a tumor associated with frequent hæmatemesis; (4) constant pains, frequent vomiting, ischochymia, emaciation—all these symptoms being constant and not extending over too long a period [six months to one year]; (5) tumor and ischochymia; (6) emaciation, ischochymia, presence of lactic acid; (7) constant anorexia and pains, not yielding to treatment, accompanied by frequent small hæmorrhages [of coffee-ground color].

A. MacFarlane<sup>28</sup> states that the symptomatology of carcinoma of the stomach varies with the diffuseness of the growth, the presence of ulceration, and whether or not the growth is primary in the stomach. In a series of 16 cases the symptom generally thought to be most characteristic—*i.e.*, the absence of hydrochloric acid in the gastric juice—was not present. Undoubtedly the absence of hydrochloric acid is of the highest diagnostic significance, yet many excellent observers have reported cases showing that the presence of hydrochloric acid is not inconsistent with the diagnosis of gastric cancer. In 12 of the 16 cases the diagnosis was confirmed by operation or by autopsy. In 6 the history had been suggestive of a preceding ulcer. Hydrochloric acid had been continuously present in 13 of the cases, while in 3 it had been present for a time, and was afterward replaced by lactic acid. The latter acid appeared late in the disease in 4 cases, and in 1 it had been associated with the presence of hydrochloric acid. All of the patients had suffered greatly from vomiting. Retention of food, emaciation, and prostration had been marked in every instance. In 9 cases the gastric symptoms had been

present for less than one year; in 7 they had existed for a number of years. In 7 cases pain had been the prominent symptom.

Carstairs Douglas<sup>29</sup> says that in summarizing the leading symptomatic indications, one may note that: 1. Nausea, feeble digestion, and vomiting generally precede hæmatemesis. 2. Pain is often present early, is frequently constant in character, is aggravated by the ingestion of food, and is not relieved by vomiting. 3. Loss of flesh, with concomitant loss of bodily vigor, often forms an early and striking symptom. 4. Hæmorrhage, when it does occur, is usually scanty and irregular, and the blood is much altered. 5. Appetite rapidly fails, the patient often losing all desire for food, and showing no sense of hunger, such as is present so frequently in gastric ulcer, where the patient wishes to eat, but fears to do so.

Of all the usual methods of clinical examination, palpation is the most reliable in this particular class of cases. The patient should always lie in the dorsal position, with the knees flexed, the shoulders slightly raised, and the mouth open. Examination must be conducted systematically all over the abdomen, both with the hand laid flat on the surface, and by the method termed "dipping." In the latter the great point desired is to take the abdominal walls by surprise, as it were, and so to bring the finger-tips against any subjacent hard structure before the muscles have time to contract. It is by the process of "dipping," too, that one ascertains the presence of fluid in a dilated stomach.

The tonicury of the recti abdominales may make a satisfactory examination almost impossible, and, therefore, in all

<sup>28</sup> Med. Rec. Feb. 11, 1906.

<sup>29</sup> Edinburgh Med. Jour. Mar. 1900.

cases of doubt, the patient should be anæsthetized and properly examined once for all.

In every instance of palpation the greatest care should be taken that the bowels have been well emptied, else a fecal mass in the upper part of the abdomen, which has all the characteristics of a tumor, may be palpated, and, even after a purge has been administered and has had due effect, this may happen.

In all doubtful cases chemical examination of the stomach-contents should be made a part of routine work.

In conclusion, if the physician find that a stomach-case is not improving under general medicinal and dietetic treatment, and if the symptoms be such as to awaken a grave suspicion of malignancy, while at the same time it is not possible to make a positive diagnosis, he should call the surgeon to his aid, and seek for enlightenment by an exploratory incision. At the Edinburgh meeting of the British Medical Association Dr. Crawford Renton laid special stress on this point, and, while deprecating the careless use of this procedure, emphasized its value in doubtful cases. As he remarked, two good results may follow: either the surgeon does discover a tumor which may be amenable to operative treatment, curative or palliative; or else it may happen that nothing positive is discovered, and yet in some inexplicable way the simple making of an incision produces relief of symptoms.

William Osler and Thomas McCrae<sup>30</sup> state that in a series of 150 consecutive cases of cancer of the stomach in the medical department of the Johns Hopkins Hospital 6 of the patients were under thirty years of age: 4 per cent. There are 6 cases on record below the age of ten years.

In the second decade it is so rare that reference to or reports of only 13 cases

have been found. The cases of cancer of the stomach in the third decade are more numerous, and may present difficulties in diagnosis.

Cancer of the stomach in the young frequently runs a rapid course. Mathieu came to this conclusion after a study of the recorded cases.

Loss of appetite was considered by Brinton to be a marked symptom in young individuals. Mathieu holds a contrary view, and in his collected cases found that in one-half of the cases this symptom did not appear until the last four or five weeks of life. In one-fourth of his cases the appetite was retained until death. He considers that this view of the supposed common absence of appetite in the young has contributed to errors in diagnosis.

As in cases at all ages, a certain number are free from pain throughout.

Vomiting was present in 5 of the 6 personal cases.

Tumor was present in 5 cases, in 1 of which it was only found at autopsy, the enlarged liver having covered it during life.

Ascites was not present in any of this series. Among 27 cases collected by Mathieu it was present in 5, of which 4 were thought to be cirrhosis.

Fever was thought by Mathieu to be generally absent in the young. But 3 personal cases had fever, and a fourth gave a history of a feverish attack shortly before admission.

Mathieu, in his series of 19 cases in the young, estimates a mean duration of three months. In the series of 6 the duration is known in 4 instances. None of these were over six months. Of the remaining 2, 1 with a history of four months was lost sight of, but, as he had

<sup>30</sup> N. Y. Med. Jour., Apr. 21, 1900.



lost ground rapidly and did not improve under treatment, it seems probable that the duration would not be much prolonged. The sixth case gave a history of over eighteen months.

W. J. Mayo<sup>31</sup> says that carcinoma is entirely a surgical disease, and emphasizes the need of exploratory incision for early diagnosis. The curability of carcinoma depends largely on its histological structure; the greater the amount of stroma, the more favorable is the post-operative prognosis. Colloid degeneration seems very unfavorable, while the cylindrical-celled growth yields the largest percentage of non-recurrence. The diagnosis at the cardia is easy, and the prognosis bad, while the opposite is true at the pylorus. Lymphatic involvement, so called, is known to be a simple septic glandular enlargement,—the relation between the abdominal glands and the carcinoma being utterly different from that which exists between the breast and the axilla. Abdominal adenitis is, therefore, of little importance. The patient's condition is an indication of value, particularly if cachexia and ascites are present. These make the prognosis unfavorable. Every operation should be at first for diagnosis.

**Treatment.**—In a case of advanced carcinoma of the stomach Ruheman<sup>32</sup> found that protargol greatly relieved the symptoms. Protargol can be prescribed with the ordinary pill bases. The maximum daily dose is 9  $\frac{1}{2}$  grains.

J. H. Bryant<sup>33</sup> considers it the bounden duty of the physician, as soon as he makes a diagnosis of cancer of the stomach, especially of the pyloric variety, to at once call in a surgeon in order to consider the advisability of operation. The determination of the exact position and extent of the growth has an important bearing on the surgical treatment of this disease.

The most favorable form for operation is the pyloric, which is also, by far, the commonest. By medicinal treatment there can be no hope for a cure. No good can be expected by temporizing. For success, it is of the greatest importance to operate before the growth has extended far toward the cardiac end, before adhesions have taken place to adjacent structures and before secondary deposits have occurred in these organs. The operation which gives the greatest hope of cure or prolongation of life is pylorectomy; should the growth be too extensive for removal, a gastro-duodenostomy or gastro-jejunosomy should be undertaken. Either of these operations, successfully performed, will undoubtedly prolong the patient's life for many months.

In cases in which the growth is too advanced for pylorectomy, the advisability of total extirpation may be considered.

Carcinoma of the cardiac end does not lend itself much to surgical interference, chiefly on account of the cesophagus's being so frequently invaded by the growth as well. Temporary relief and prolongation of life for a short time may be obtained by gastrostomy, but this operation should only be performed when marked dysphagia is present. Local carcinoma of the body of the stomach is an unfavorable form for surgical interference; so also is diffuse carcinoma. Removal of the growth, if small, or total extirpation might be considered.

When cancer affects the cardiac end of the stomach and if the disease has advanced so as to produce stenosis, Mayo Robson<sup>34</sup> says it will be beyond successful removal, and gastrostomy should be

<sup>31</sup> Med. Rec., May 5, 1900.

<sup>32</sup> Therap. Baillage & Journal med. Wash., Oct. 5, '99.

<sup>33</sup> Clinical Jour., Mar. 26, 1900.

<sup>34</sup> Lancet, Mar. 24, 1900.

performed. If the operation is performed sufficiently early, and if it be done according to the best methods, it will be found that gastrostomy may be included among the most useful and beneficent of the palliative operations which the surgeon is called upon to perform.

The operation personally performed is very simple and only occupies a few minutes; it is a modification of the Ssabane-jews-Franks method. A vertical incision of about one and a half inches is made over the outer third of the left rectus abdominis, commencing three-fourths of an inch below the costal margin; the fibres of the rectus are separated, but not divided, to the extent of the incision; and the posterior part of the rectus-sheath and peritoneum are divided together, the opening being an inch in length. A portion of the cardiac end of the stomach is then brought up through the wound and held forward by an assistant until four sutures are inserted into the base of the cone by means of a curved intestinal needle, so as to fix the visceral peritoneum of the stomach to the edges of the parietal peritoneum. A transverse incision of half an inch is then made through the skin, one inch above the upper end of the first cut, and by means of a blunt instrument—such as the handle of a scalpel—the skin is undermined so as to connect the two openings beneath a bridge of skin and subcutaneous tissue. A closed pair of pressure-forceps is intro-

duced through the upper incision as far as the projecting part of the stomach and made to grasp the most prominent part, which it draws up to and beyond the surface of the second opening, where it is retained by means of two harelip-pins. It should just fill the opening and should require no sutures. The lower opening is now closed by two or three silk-worm-gut sutures or by a continuous stitch, and the edges are dried and covered with collodion and gauze. If needful, the stomach can be opened at once by a tenotomy-knife introduced between the pins; but, if possible, the opening should be deferred for twenty-four hours, when a barrier of lymph will have been thrown out. After opening the stomach, a soft catheter, from a No. 8 to No. 12, is inserted, to which a piece of tubing is fixed, and by means of a funnel the patient can at once be fed with warm milk and egg or whatever liquid may be thought desirable. The catheter may be left in position for a few days, after which it is easy to insert it whenever a meal is required. If the patient is much exhausted, an anæsthetic may be dispensed with and cocaine employed, as the only pain experienced is caused by the skin incisions. Little or no shock is experienced, as, although the peritoneum is opened, there is neither exposure of viscera nor handling of any organ except the portion of stomach to be fixed.

## Cyclopædia of Current Literature.

### ACTINOMYCOSIS.

**Diagnosis.**—The diagnosis of actinomycosis can be made under the microscope by crushing one of the rays. It is not necessary to stain the specimen.

The rays are branches, with dark and light spots. Staining is necessary, however, to bring out these spots. The ray-fungus is anaërobic. J. H. Wright (*Med. Record*, May 12, 1900).

**AMENORRHEA.**

**Treatment.**—In deficiency or absence of the regular monthly flow in young girls just entering womanhood electricity in some form is particularly indicated. Personal preference in this class of cases is the static current. It requires no disrobing, as the treatment is given through the clothing, and for the same reason takes less time than any other form. It is eminently satisfactory in the great majority of cases.

The patient is seated on the insulated platform—negatively insulated. The positive pole is grounded to any metallic substance and carried to the earth (with a small machine this is not necessary). A brass-pointed electrode is connected by means of a chain to a convenient gas-fixture or steam-pipe and the machine set in moderate motion—from one to two hundred revolutions a minute. A warm spray with light sparks is administered over the sacral and pelvic regions for from ten to twenty minutes three times a week for from one to three months. Treatment need not be suspended during the menstrual period.

Equally good results can be obtained by the use of the constant (galvanic) current with very little exposure. A large electrode is connected with the positive pole of a galvanic battery and applied to the sacrum. It should not be less than thirty square inches in area. The negative electrode should also be large, not less than twenty square inches in area, and applied over the lower part of the abdomen. They may be covered with sponge, punk, or absorbent cotton, and should be thoroughly moistened with a normal saline solution. The current should be turned on and off gradually, so as to avoid disagreeable shocks. Twenty to 50 milliamperes should be used by the swelling method, gradually

turning on the current to the limit and as gradually reducing it to zero. This current is to be used for ten minutes. Then, without changing the electrodes, the induced current is to be applied from the primary coil of a faradic battery for from five to eight minutes to the limit of endurance.

Another method, and one that is applicable to the small percentage of cases that will not respond to the former methods of treatment, is the intra-uterine. A flexible electrode is attached to the negative pole and inserted into the cavity of the uterus. A large electrode is placed under the sacrum and another over the lower abdominal region by means of a bifurcated cord attached to the positive pole of the battery. The current is gradually turned on, and from 15 to 25 milliamperes used for ten minutes, followed by the induced current from the coarse primary cell for from five to eight minutes. P. M. Campbell (Physician and Surgeon, May, 1900).

**ARSENICAL PIGMENTATION AND KERATOSIS.**

The prolonged use of arsenic is, at times, attended with wide-spread pigmentation or keratosis chiefly palmar and plantar, or both pigmentation and keratosis. Associated together, they form a picture which can scarcely be mistaken. The keratosis may, in rare instances, undergo optholomous changes and lead to a fatal termination. The possibility of such a serious outcome, let alone other accidents of arsenical intoxication, emphasize once more that arsenic is no indifferent drug. The occurrence of these dermatoses, however, is not to be viewed as the result of a medical error in its administration. Its use continued for months, and at intervals even for years, is the only



relief on which many sufferers from psoriasis can rely.

As with other drugs, the range of individual susceptibility is wide. While one will develop a keratosis after a few months of arsenical medication, another may take the drug for years with impunity. Mr. Hutchinson has recorded a life-long use of arsenic for the relief of psoriasis in a man 60 years old. Speaking generally, it has not interfered with his health.

That arsenic may be habitually used without deleterious effects, and tolerance to large doses established, is illustrated by Mr. Hutchinson's case and the experience of the Styrian peasants, but such an immunity in medical practice is not the rule. Without a definite indication prolonged treatment with arsenic is an error.

A common acne may be combated by simpler and less serious measures than years of arsenical medication! On the other hand, for certain cases of psoriasis, of lichen ruber, chorea, some grave anæmias, and occasionally for retarding the growth of various malignant tumors, the prolonged use of arsenic is a veritable boon. But in these instances its administration must be under medical supervision. L. P. Hamburger (Johns Hopkins Hosp. Bull., Apr., 1900).

#### CASTOR-OIL AND CODLIVER-OIL, TASTELESS METHOD OF ADMINISTRATION.

Cold milk is the best of all vehicles in which to administer both castor-oil and codliver-oil. The method of administration is as follows: The mouth should be filled with milk, which is to be held there; then a tablespoonful of milk is to be dipped up, and into this spoon—already full of milk—about a teaspoonful of oil is then to be poured: whether

codliver-oil or castor-oil, it displaces milk to the extent of its bulk, as any other liquid would do, but the globules of either of these oils, being different from the globules in milk, do not mix with the latter, and the oil will be in a round ball, not touching the spoon. As the milk that has been held in the mouth is swallowed, the spoonful of milk is to be taken into the mouth, and at once milk from a cup at hand is to be drunk. A person has never been personally found who, if the procedure was carried through in this manner, could tell whether he had taken castor-oil or codliver-oil, or taken none at all. There is absolutely no contact with the mouth or throat, or any particle of the oil, nor can it be smelled on the spoon. All this implies taking immediately, but not with undue haste.

The oils as well as the milk must be cold, and the colder, the better. The quantity can be increased by degrees as the stomach will stand the oil desired, but, if a large dose of castor-oil is desired, it can be given better by repeating the procedure than by attempting to swallow too much at one time. W. Washburn (Jour. Amer. Med. Assoc., May 12, 1900).

#### CATHETERIZATION, METHOD OF.

In view of the frequent immediate untoward results of catheterization and their distressing sequelæ, one might almost reckon this procedure among the major gynæcological operations, until the question as to the safest method is finally solved.

In order that catheterization may be performed by the nurse, she must be especially trained; she must be warned of the unusual risks, and taught each step with great exactitude. The method

adopted for some years past in personal clinics is the following:—

A glass catheter is preferred. Each patient has her own catheter for her exclusive use as long as she needs one. It is sterilized by boiling five minutes in a soda solution, and is then placed in an open-mouth bottle filled with a 5-per-cent. carbolic solution, or 1 to 1000 bichloride of mercury, with some cotton on the bottom to protect the end of the catheter.

Just before using it may be boiled again in the soda solution.

The nurse then scrubs her hands carefully and places the patient on a bed-pan, and exposes the vulva, and separates the labia, so as to expose the urethral orifice.

She then takes up a pledget of cotton, saturated with a boric-acid solution, in the grasp of a forceps, and with this thoroughly cleanses the urethral orifice. This is repeated with another pledget, when the patient is ready for catheterization.

She now draws two sterile finger-cots over her thumb and index finger of the right hand, and thus well protected grasps the catheter by its outer end and removes it from the receptacle, rinses it off with sterile water, or if it has just been boiled lifts it directly from the pan, and gently introduces it into the urethra, allowing it to take its own way into the bladder and never under any circumstances using force.

The catheter never completely empties the bladder when the patient is lying down; and if there is any cystitis it is best to wash it out, using a large catheter with a strong curve at its vesical end. After the irrigation the curved end is turned downward toward the base of the bladder, when the sediment often escapes first.

Uncontaminated urine may be obtained from the bladder for bacteriological study in the following manner:

The catheter is sterilized with a piece of rubber tubing covering an inch or more of its outer end and projecting about two inches beyond it. It is then introduced, preferably by the physician, with the precautions described, and the urine allowed to escape for a few seconds, after which the rubber sleeve is pulled off, and the urine now running over the sterilized end of the catheter is collected in a test-tube. H. A. Kelly (*Johns Hopkins Hosp. Bull.*, Apr., 1900).

### COCCYGODYNIA.

**Diagnosis.**—In coccygodynia the greatest pain is experienced in sitting down and in rising from a sitting posture. In the former act the patient rotates her body on its long axis and lets the weight of her trunk fall upon one tuber ischii. When she rises she puts the palmar surface of one hand upon the seat of her chair and pushes herself up by her arm, so as to spare the gluteal muscles and those of the pelvic floor. Pressure over the osseux elicits pain. A sign of injury to the coccygeal joints and of a consequent coccygodynia not generally known, but which is by far the most distinctive and on which dependence is always placed in making the diagnosis, is as follows: If the osseux is caught between the forefinger in the rectum and the thumb in the groove of the nates the lower fragment below the ruptured joint may be thrown out of the line of the upper fragment. At the same time the abnormal mobility of the bone may be demonstrated and the sharp ridge of the upper fragment may be felt when the lower fragment is

pushed backward. It is impossible to do this with a normal bone.

In a very thin subject the displacement forward of the lower fragment leaves a sharp ridge of bone at the lower end of the upper fragment that irritates the skin over it.

The only treatment of coccygodynia worth considering is coccygectomy. B. C. Hirst (Univ. Med. Mag., May, 1900).

### CONSUMPTION, PREVENTION OF.

Consumption prevails most among those who are stunted or who stint themselves of "bacon" and "butter." These are mentioned as ideal and the most digestible of fat-foods; others are commendable. Everybody has learned, when it is, unfortunately, in most cases, too late, that codliver-oil is good for consumptives, but few seem to have learned that food of the same character as codliver-oil, suitable for the table, is preventive of consumption.

In the whole course of personal professional observation, now covering a period of nearly sixty years, there has never been known a family or an individual that was brought up on a liberal supply of butter and bacon that became tuberculous. Moreover, such food fortifies the system against other diseases as well as consumption. A. N. Bell (Sanitarian, May, 1900).

### DENTAL CARIES.

**Etiology.**—Recently some experiments have been made by M. J. Choquet on the propagation of dental caries by direct inoculation of healthy teeth with the carious microbe, and the results of his observations are as follow: That dental caries is due to a micro-organism has been established by the labors of several investigators, but its reproduction by direct experiment has not as yet

been demonstrated. From three stopped teeth, the stopping of which had remained intact for periods varying from three to seven years, he succeeded in isolating five species of microbes. Of one of these he was able to obtain pure cultures. The characters it presents are that it is short, motile, ramifying when growing in extract of meat, and incapable of liquefying gelatin. It does not grow on nor in gelose, potato, or serum. On gelatin-peptone it forms colonies only on the fifth or sixth day. These are oval in form, opaque, and whitish in color. The growth is greatly favored by the addition of 1 per cent. of glycerophosphate of lime. It is a facultative anaërobe, with disposition to develop more rapidly *in vacuo*. It causes glycerin, mannite, glucose, galactose, saccharose, lactose, maltose, dextrin, and inulin to ferment. It is without action on dulcete, erythrite, arabinose, and the nitrates. It does not peptonize albumin, nor does it coagulate milk. It does not liquefy starch paste, neither does it form indol with peptone. Editorial (Lancet, May 19, 1900).

### DIGITALIS.

Conclusions regarding the good and bad effects of digitalis used as a therapeutic agent are as follow: (1) the chemical composition of digitalis is complex, some of its active principles antagonizing others; (2) the various preparations of digitalis differ widely in their composition and action; (3) the so-called cumulative action of digitalis is due to its contracting the arterioles and shutting off nutrition; (4) it is both a useful and a dangerous remedy, and has a very limited range of usefulness; (5) it is of use only in lesions of the mitral valve, and then only for a short time, and should be discontinued as soon as these



have been overcome: (6) it is of value as a diuretic only when there are low arterial tension and engorgement of the kidney; (7) digitalis decreases the excretory action of the normal kidney and impairs its nutritive activity.

The tincture of digitalis, made from the fresh leaves, is the most valuable and the most certain of the preparations of digitalis. It contains the largest percentage of those constituents which are most useful in the treatment of cardiac disease. W. H. Porter (Med. Record, May 12, 1900).

### HAIR, LOSS OF.

**Treatment.**—Three hundred cases of loss of hair have been personally studied. The term "loss of hair" was chosen rather than "alopecia" so that it would be readily understood that baldness was not present in every case. Only about a third of the cases could be followed long enough to draw conclusions in regard to the effects of treatment.

If there is absolute baldness, and the scalp is atrophied and bound down, there is little use in trying to treat the case. All such a patient can do is to endeavor to stay the evil day by keeping his scalp in as good a condition as possible by hygiene, massage, and applying remedies for the dandruff if it is present. It is possible to stimulate the dying hairs for a time into a stronger growth, but ultimately calvities is inevitable.

Positive results in checking the fall of hair and increasing its amount have been obtained by using precipitated sulphur, 10 per cent., in a good cold cream with or without either salicylic acid, 3 to 5 per cent., or extract of jaborandi, a drachm to the ounce. The ointment proposed by Dr. Bronson, composed of

ammoniated mercury, 20 grains; calomel, 20 grains; 10 an ounce of vaselin, has also done good service in some cases. In a few cases vasoline in solution and in increasing strength has proved helpful.

Medicated ointments and lotions are useful for overcoming the dandruff. It is believed that there is no permanent cure for that disease. Therefore the patients should have their remedies constantly at hand so as to apply them as soon as the dandruff reappears.

For stimulating the growth of the hair, there is only one remedy worthy of the name, and that is massage. For this a skilled professional is best, but a great deal can be done by the patient's pinching up the scalp between the ends of the extended fingers of both hands for five minutes night and morning. Massage must not be used until the dandruff is checked.

For the ordinary cure of loss of hair with dandruff, personal treatment is as follows: First, the general condition of the patient is attended to. Then he is given one of the sulphur preparations and is directed to use it once a day for three days, and then to wash the hair and scalp. Immediately after the hair is dried, the ointment is again applied and repeated every other day for ten days. The scalp is again washed and the ointment continued twice or three times a week until the dandruff is controlled, the washing being repeated from time to time. When the scalp is in good condition, massage is ordered. If the patient will not use an ointment, a lotion of resorcin, at first 5 and afterward 5 to 10 per cent strength is ordered, to be used morning and night. For a case of loss of hair without any apparent trouble with the scalp, resorcin is placed mostly upon massage, the sul-

phur preparation being used occasionally to keep the scalp a little oily. G. T. Jackson (Med. Record, May 26, 1900).

### HEART DISEASE, CHRONIC.

**Treatment by Artificial Nauheim Baths.**—Various methods may be employed for the production of a carbonic-acid effervescent bath. The action of hydrochloric acid on bicarbonate of sodium is a simple way for generating the gas. Used in conjunction with the saline mixture (described below) in varying proportions, the degree of effervescence may be regulated by the quantity of acid and alkali employed, so that a mild, medium, or strong ebullition results. The mild bath is prepared by adding  $\frac{3}{4}$  pound of hydrochloric acid to  $\frac{1}{2}$  pound of bicarbonate of sodium; the medium, by doubling these quantities; the strong bath by the action of 3 pounds of hydrochloric acid on 2 pounds of bicarbonate of sodium. The procedure is as follows: A given quantity of the saline mixture is dissolved in 30 gallons of water,  $4^{\circ}$  or  $5^{\circ}$  F. warmer than the bath calls for. Bicarbonate of sodium is now added and thoroughly mixed with the saline solution. The hydrochloric acid, contained in a stoppered bottle, is placed at the bottom of the tub, the stopper is removed, and the acid is slowly distributed throughout the lower layer of water. In this way rapid effervescence takes place, and the bath is ready in a few minutes.

Or the acid sulphate of sodium (or potassium) and bicarbonate of sodium may be used with great advantage. The acid sulphate of sodium is fused into suitable cakes weighing about 2 ounces. Six or 8 of such cakes are placed on tin-foil strips or in saucers at the bottom of the tub containing the saline solution of proper strength and tempera-

ture, and 2 pounds of bicarbonate of sodium added. Effervescence begins at once, and the patient is immediately immersed in the bath, his head only being above the level of the water, properly supported by a cross-piece of webbing. The strips of tin foil protect the porcelain or wooden tub from any deleterious effect. It is wise to distribute the cakes on the bottom of the bath in such a way that two each will correspond to the shoulders, buttocks, and feet of the patient.

The employment of liquid carbonic-acid gas, unless used in conjunction with a suitable apparatus, may prove dangerous on account of the poisonous nature of the gas when inhaled.

The following mixture for preparing the saline bath is used: Sodium chloride (sea-salt), 30 pounds; potassium chloride, 10 ounces; calcium chloride (granular), 30 ounces; magnesium chloride, 8 ounces. These ingredients are thoroughly mixed and kept in a moisture-proof tin box till required for use. It is advisable to begin with a weak saline solution, 3 pounds of the above mixture in 30 gallons of water, and to increase gradually until 5 pounds of the mixture in the same quantity is used. The latter strength closely resembles the Nauheim Spring No. VII, called the Grosser Sprudel, the strongest of the waters there. The temperature of the bath should be  $95^{\circ}$  F. at first, which is gradually reduced in each succeeding bath till a temperature of  $85^{\circ}$  F. is recorded.

The duration of the first bath must not exceed 5 minutes. As the strength of the bath is gradually increased and the temperature diminished, so the period of immersion is lengthened until the limit of 15 to 20 minutes is reached. Following the usage of Nauheim, it is

necessary to omit the baths every second or third day. The number of baths necessary varies with each individual case; usually a course of treatment extending over several months is required. During the past year (1899) 28 patients with chronic diseases of the heart have been personally treated with these artificial Nauheim baths. The results obtained have been so gratifying that it can, without hesitancy, be claimed that the therapeutic influences of these baths are identical with the natural ones.

Immediately after entering the bath there is produced a momentary effect of oppression in breathing which causes one to breathe deeply and slowly, and which is followed by a reduced and more rhythmical inspiratory and expiratory movement.

The therapeutic influences of the baths are augmented by a system of exercises, the results of which are nearly as efficacious and which can be employed in conjunction with the baths, or independently especially in obese or bedridden patients. These exercises consist of regulated movements of the entire voluntary muscular system, which are resisted by an expert attendant, in such a way as slightly to oppose the muscular action without arresting it. The operator must be thoroughly conversant with the actions of the different groups of muscles; the patient must be carefully observed during the manœuvres, which must be at once suspended on the slightest symptoms of circulatory or respiratory interference.

Of all methods of treating chronic diseases of the heart—and by treating is meant relieving not only the circulatory disturbances, but the concomitant effects on the different organs of the body—the artificial Nauheim baths, like the natural ones, together with the

resisting exercises, are the most efficacious and lasting therapeutic remedy yet devised. A Mayer (Med. Record, May 26, 1900).

## INTESTINAL INDIGESTION, DIET IN.

In prescribing a special diet one principle should always be kept in mind, which is that a well-adjusted mixed diet, when it can be perfectly digested and absorbed, is the height of perfection.

In almost every instance of intestinal indigestion the mixing of the various kinds of foodstuffs will not be tolerated by the entangled and already-defective digestive apparatus. So long as this plan is pursued the case will not improve. In all cases of intestinal indigestion, from the mildest to the most intense type, it is absolutely necessary to limit the diet to a greater or less extent, both as regards quantity and the kind of foodstuffs taken. In many instances it may be necessary to limit the diet to a few articles of food, as milk, barley-gruel, or broths, and even these in very limited amounts, so much so that, at times, the patient may even lose flesh, while the digestive function is being slowly, but surely, re-established. The fancy of the patient must not be considered, but that form of diet must be chosen which will be most effectually digested and yield the largest amount of nutrition.

The mixed diet which most effectually meets the foregoing demands, as soon as it can be tolerated, is one composed of milk, eggs, meat, and toast or stale bread and butter. The ideal mixed diet, as personally arranged, makes a very good working standard:—

FOR BREAKFAST.—Two eggs, 8 ounces of milk, 2 ounces of wheat-bread and butter.

FOR THE MIDDAY MEAL.—From  $\frac{1}{2}$  to



$\frac{1}{2}$  pound of beefsteak, 8 ounces of milk,  
3 ounces of wheat-bread and butter.

FOR THE NIGHT MEAL.—From  $\frac{1}{4}$  to  
 $\frac{1}{2}$  pound of beefsteak, 8 ounces of milk,  
2 ounces of bread and butter.

AT BED-TIME.—Eight ounces of milk.

Beefsteak is taken as the working standard among the meats, as it is the most easily digested of all the foodstuffs. Under the heading of meat is included lamb, mutton, occasionally veal (the word "occasionally" refers to the frequency of use); all kinds of fish, including the shell forms, such as oysters, clams, lobsters, and crabs; poultry and game of all kinds.

The meats to be broiled, boiled, or baked.

The fish to be boiled or baked.

The oysters and clams to be eaten raw or stewed in their own liquor.

A little crisp bacon may be taken from time to time, also ham and corned beef, without cabbage.

Eggs may be boiled, poached, or scrambled.

The milk is best taken warm or with a little lime-water added.

Wheat-bread is taken as the standard because it is the most easily and perfectly digested. It should be at least twenty-four hours old or toasted; rye, Graham, zwieback, or the health-food breads may at times be substituted.

Weak coffee, without milk or sugar, or with a dash of milk, may be taken freely as a beverage.

Coffee taken clear aids digestion, but with milk and sugar often disturbs digestion.

To enlarge the above diet the following may be used:

In the line of vegetables: string beans, green peas, Lima beans, spinach, lettuce, asparagus, and cauliflower. They should

be well cooked, and only one vegetable at a meal.

When a vegetable is taken with the meal there must be a reduction in the quantity of meat or milk as given in the above table.

In case one particular form of meat cannot be tolerated, another kind must be substituted. In like manner, if milk or eggs cannot be tolerated, another kind of food must be substituted. The same rule holds true in the selection of the vegetable substances.

The following foodstuffs are excluded:—

All fruits, either cooked or raw; all cereals and breakfast-foods; nuts, sweets, and pastry of all kinds; potatoes in all forms; onions, tomatoes, turnips, parsnips, carrots, celery, radishes, cabbage, egg and oyster-plant, corn, etc.; pork in all forms, except as before stated. Rich gravies, and all forms of soups are excluded.

The medicinal treatment of intestinal indigestion and its sequences is equally as varied and important as the dietetic management. W. H. Porter (*Phila. Med. Jour.*, May 26, 1900)

## **LAVAGE OF THE COLON.**

In giving hot-water lavage of the colon, the patient is placed in a dorsal position on a table so adjusted that the hips may be raised or lowered to any required angle without discomfort. The solution employed is usually a 0.9-per-cent. salt solution at a temperature of 55° C. (131° F.). This temperature is employed to secure the therapeutic effect of heat. A soft-rubber tube, either single or double, with end and side openings, is introduced into the rectum as far as the sigmoid flexure; 200 to 300 cubic centimetres (about  $\frac{1}{2}$  pint) of water at a temperature of 50° C. (122° F.) is first introduced into the

rectum. This is allowed to return through the tube into a receptacle, in order to prevent overdistension and to replace the water that has been lowered in temperature in the intestine. The procedure is then repeated, and with each repetition the temperature is gradually raised until  $55^{\circ}\text{C}$ . ( $131^{\circ}\text{F}$ .) is attained. For this purpose from 3 to 6 quarts of water will be required. At no time is a large amount to be introduced into the intestine. The patient is then allowed to empty the bowels. After this he is placed on the table and receives a similar short treatment with water cooled to  $2^{\circ}$  to  $5^{\circ}\text{C}$ . ( $35.6^{\circ}$  to  $41^{\circ}\text{F}$ .) by means of ice. The quantity of water required and the duration of the treatment will depend on the character of the case.

Therapeusis here as elsewhere will depend on correct diagnosis, not only of the disorder, but of its type. Based on this, the procedure is eminently valuable. For continuous irrigation a double—in lieu of a single—tube should be used. The double-recurrent tube, or "needle douche," has answered this purpose well.

Favorable results from the procedure thus described depend not so much on the amount of water introduced as on the reaction between the stimulation of heat and that of cold. A single large quantity of water is detrimental, while small quantities of hot water frequently repeated have remarkably beneficial effects. The colonic mucous membrane, like that of the back of the throat and œsophagus, will sustain a remarkable degree of heat without undesirable reaction.

The therapeutic indications are based on the vasomotor conditions which underlie certain pathological disturbances. In a general way, the cases which are benefited by this procedure may be divided into those where the liver is more

markedly affected, those where the kidneys are, and finally those where an intestinal factor is more evident, as in appendicitis. In hepatic insufficiency, catarrhal jaundice, and chronic hepatitis the results of the treatment have been exceedingly satisfactory.

For several years colonic lavage has been employed in typhoid fever. There is no danger resultant on the introduction of small quantities of water at a time, being allowed to siphon off before introducing more. There might be harm from using large amounts, by what is known as "high injections," "rectal and colonic flushings," etc. With precautions with the technique already described, and with variations in temperature and time of treatment suited to each case, the arm or needle-douche procedure will have decidedly potent effect in removing from the colon the toxic and catarrhal materials and in restoring the circulation. The treatment is contra-indicated in cases where dilated heart or other grave cardiac lesions exist. In these prostatic and sigmoiditis very hot water sometimes acts as an irritant to the intestinal walls. Here water at the room temperature is preferable. Except in acute illness—for the immediate physiological action, indicated even then only if it may be possible—damage will not result unless the treatment be continued too long. In cases of ramified arteriosclerosis some danger from hemorrhage may result from the employment of any active procedure. Lavage is contra-indicated, as also in advanced tuberculosis, as well as in cirrhosis, in which the condition of the vessels may produce hemorrhage on slight strain. These contra-indications are such as will occur in individual patients rather than in particular types of disease.

A frequent personal observation pre-

vents introduction of water, especially hot water, into the colon. Its introduction is sometimes followed by collapse. Fenton B. Turek (*Jour. Amer. Med. Assoc.*, May 5, 1900).

### LEUCODERMA.

The only possible difficulty in the diagnosis of leucoderma is its distinction from a chloasma or other localized excessive deposition of pigment. It might seem in certain cases that the whiter areas are the natural color of the patient's skin, and the darker ones the abnormal tissue. The question is readily settled by the shape of the spots. In both affections the spots are more or less circular or rounded, so that the convexly bordered margin marks the abnormal and the concavely bordered area the healthy skin. Some few cases of leucoderma occur in conditions of general ill health; but the majority of them are perfectly well.

This affection is commoner in the colored than in the white race; and the so-called "leopard boys" exhibited in the dime museum are examples of the disease. It chances also to be common in certain South and Central American countries where leprosy is endemic; and here it is popularly confounded with the macular form of that affection, and the patients are regarded as lepers. There is no basis at all for this idea. Leucoderma is a pure pigment atrophy, entirely, unassociated with any general disease.

Nothing can be done therapeutically for the affection. Improvement of the general nutrition by exercise, diet, baths, tonics, etc., sometimes retards the spread of the affection. But in the majority of cases it is either stationary or progressive. The spots remain as permanent achromias, or spread until the entire skin is

more or less dechromatized. W. S. Gottheil (*Inter. Med. Mag.*, Apr., 1900).

### LEUCORRHŒA, YEAST IN TREATMENT OF.

T. Landau, of Berlin, reports some forty cases of leucorrhœa treated by local applications of yeast. A few cases were not benefited; in a few the discharge was only somewhat diminished; but in a very large percentage a complete cure was accomplished—many of them in cases of chronic gonorrhœal leucorrhœas of long standing, which had resisted other local and general treatment.

Brewers' yeast was used, kept on ice, and renewed every three days. Diluted, at the time of using, with beer:  $2\frac{1}{2}$  drachms to  $1\frac{1}{2}$  ounces were injected into the vagina through the speculum; the vagina was plugged with a cotton tampon, which the patient was instructed to remove the next morning, and to take a douche of plain water or salt solution. The treatments were made every two to three days, and continued from one to three weeks, some cases requiring only one application.

No unpleasant after-effects were observed, except severe itching in two cases. This was relieved by adding soda to the douche on the following day.

A summary of personal cases does not show the brilliant results obtained by Landau, but justifies the continued trial of this method of treatment.

Brewers' yeast was used when it could be obtained; when it was not to be had compressed yeast gave apparently similar clinical results. The compressed yeast was prepared as follows: A quarter of a cake of "Fleischman's" was dissolved in a half-cupful of water mixed with about a teaspoonful of either flour or sugar. E. R. Mitchell (*Woman's Med. Jour.*, Apr., 1900).



## LUMBAR PUNCTURE, THE TECHNIQUE OF.

In discussing the choice of location at which the puncture shall be made there are three chief requirements to be considered:—

1. That the needle shall find ready entrance to the subarachnoid space.
2. That the tapping be made at the point least likely to admit of damage to the nervous structures of the canal.
3. That the fluid obtained shall be as rich as possible in sediment.

The first requirement is sufficiently well met by entrance through any of the lumbar spaces or through the lumbo-sacral space.

Possible injury to the cord can be excluded by entering at some point below the third lumbar vertebra. In adults it is perfectly safe to puncture between the second and third vertebrae.

The last requirement is best fulfilled by tapping in the lumbo-sacral space.

If the puncture is made for purposes of diagnosis, then it seems best to enter the lumbo-sacral space and to have the patient, if a child, in the sitting position. With adults, and especially with those who are delirious or comatose, or who are greatly prostrated, it is often impracticable.

Whatever the position decided upon, the essential point is to secure the greatest possible degree of ventral flexion of the spine. If the child is in the sitting position, it must be bent well forward and firmly held. If the horizontal position is selected, the patient should be made to curl up, with the knees and chin as near together as possible.

General anæsthesia is, in most cases, entirely unnecessary. By anæsthetizing the skin with cocaine or a freezing spray the needle can usually be introduced

with very little discomfort. Where the patient is delirious or very restless, it is well to have at least two assistants who can hold him firmly in the proper position and can prevent any sudden movement.

Just such perfect access, as to field of operation, instruments, and hands, is demanded in this small procedure as would be exercised by the surgeon in opening any serious cavity.

An antitoxic needle 4 or 5 centimetres ( $1\frac{1}{2}$  or 2 inches) long and 1 millimetre in diameter serves admirably in children. For adults the needle should be 8 or 9 centimetres long and of a diameter sufficient to give the rigidity needed to penetrate readily the tough ligament.

While the needle can be introduced without being attached to the syringe, the latter is a distinct aid to one in directing the needle accurately. If the syringe is sterilized by soaking in carbolic solution, it must be thoroughly washed out with sterile water before being used.

A sterile test-tube stoppered with cotton should be at hand to receive the fluid.

A mercury manometer for estimating the cerebro-spinal pressure is very convenient, but, as Stadelmann says, an approximately accurate idea of the pressure can be obtained by using a bent glass tube of small calibre. The short horizontal limb is attached by a bit of rubber tube to the needle, while the long perpendicular limb will record the height of the column of fluid.

After the desired space is located, the interval between the spaces is marked with the finger of the left hand, and the needle is introduced at a point opposite the upper edge of the lower spinous process and in a line just outside (i.e., a

few millimetres from the median line). The needle is directed *very* slightly upward and toward the median line, with a view to having it in the median line when it enters the subarachnoid space. As the needle passes through the interlaminar ligament, the resistance is increased and a slight grating feeling is noticed; beyond this the needle slips in very easily, and is introduced until fluid begins to appear in the syringe.

In children the fluid is reached at a depth of from 2 to 3 centimetres; in adults, at from 4 to 7 centimetres. If bony resistance is met in introducing the needle, the latter is to be withdrawn for a slight distance and directed at a slightly different angle.

After the fluid appears the syringe is taken off and the fluid collected in the sterile tube. It is much better to let the fluid run from the needle than to aspirate with the syringe.

The amount of fluid to be removed will depend upon the purpose of the puncture. If for diagnosis alone, 10 or 15 cubic centimetres are usually ample. If for therapeutic purposes, it may seem desirable to remove several times that amount. The quantity of fluid which can be safely withdrawn varies enormously in different individuals and under different pathological conditions. Perhaps the safest guide is the condition of the patient. The flow should be stopped at once upon the appearance of such symptoms as headache, faintness, or a change in the character of the pulse.

Kroenig relies upon the manometer, and stops the flow when the cerebrospinal pressure reaches 125 millimetres of water. This he regards as the normal pressure when the patient is in the horizontal position.

When the needle is withdrawn, a

procedure which usually requires some force, the skin wound is covered with a bit of sterile cotton and with collodion.

Accidents are infrequent and, for the most part, trivial and unimportant, although they may be annoying. L. A. Conner (New York Med. Jour., May 12, 1900).

### MOVABLE KIDNEY.

**Treatment.**—The treatment which should be adopted when the kidney has become unduly movable must be guided partly by the intensity of the symptoms which it causes and partly by the range of the mobility. In many cases—it is personally believed in the majority—the patient is not aware of its existence. In others movable kidney is accompanied by the most severe distress, and this may occur even when the upper end only is detached. Whether, however, it causes distress or not, it is unwise to leave a freely movable kidney wandering about uncontrolled at the back of the abdomen. Hydronephrosis from kinking of the ureter is not an uncommon result, and even worse things may happen.

The choice lies between wearing an abdominal belt and nephrorrhaphy. In personal experience it is only in the milder cases that the former of these two succeeds, and then it must be combined with massage and exercises tending to strengthen the muscles of the trunk. A belt braces the abdominal viscera together and so steadies the displaced organ, but it cannot press the kidney back into its place nor, if the kidney has been reduced, can it retain it there when the patient stands upright. The pads which are often recommended are entirely useless. For all cases in which there is manifest deformity of the lumbar region associated

with movable kidney or in which there is real distress, nephrorrhaphy should be recommended. C. Mansell Moullin (*Lancet*, May 5, 1900).

### OVARIAN EXTRACT.

The value of ovarian extract in the treatment of amenorrhœa and dysmenorrhœa seems to have a rational basis. The hypothesis that the ovaries produce an internal secretion has received some support by recent investigation. For example, experiments have been made upon dogs to determine the effect upon metabolism. After the performance of a double ovariectomy no change in metabolism was noted for ten weeks, but after that time a decided decrease was observed in the daily consumption of oxygen. On the other hand, data were available to show that the administration of ovarian extract had increased the daily consumption of oxygen. By the method of grafting more hopeful results are to be looked for. W. H. Howell (*Med. Record*, May 12, 1900).

### OVARIES AND TUBES, CONSERVATIVE OPERATIONS ON.

The following conclusions are the result of the analysis of eighty-five cases of diseased uterine appendages:—

1. It is advisable to do conservative operations in all cases where the ovaries and tubes are not hopelessly diseased in all parts of their structure, except on patients who are near the menopause, on patients who have pronounced gonorrhœa of long standing, and on the rare cases of malignant disease.

2. When a patient is near the menopause (over thirty-five years of age) and has ovarian or tubal disease of any considerable degree of severity, it is generally wiser to perform complete removal with or without hysterectomy, according as the uterus also is diseased or not.

3. In cases of well-marked gonorrhœa of long standing, especially if the patient is constantly exposed to infection, if both tubes are seriously diseased and closed, total removal with or without hysterectomy is the operation of choice.

4. In certain cases of this class where the patient thoroughly understands the likelihood that another operation may be necessary at some future time and wishes to take the chances in the hope of preserving the function of reinvigoration, conservative operation is permissible.

5. If one tube is patent and healthy in appearance and there is enough healthy ovarian tissue to preserve, a conservative operation ought to be performed even in the presence of gonorrhœa.

6. With present methods of performing resection of the tubes, if both tubes are found closed at the time of operation, subsequent pregnancy is not to be expected.

7. In severe grades of inflammation of the appendages irrespective of causation, if the ostium abdominale of one tube is patent, the prospect of subsequent pregnancy after the preservation of a portion of ovary is about one in four and a quarter, or 25 per cent.

8. In the less severe grades of inflammation under similar conditions of tube and ovary the prospect of subsequent pregnancy is about one in two and a quarter, or 44 per cent.

9. In women who have borne children, in both classes subsequent pregnancy may be expected in 36 per cent., whereas in previously sterile women it may be looked for in only 5 per cent.

10. If it is necessary to remove both ovaries it is of no advantage to preserve any portion of tubal tissue, but, except under the conditions just enumerated,



some ovarian tissue should be preserved in every case. W. L. Burrage (*Annals of Gynec. and Ped.*, May, 1900).

### PIANISTS, A DISEASE OF.

Cases of nervous and muscular affections have been observed in pianists, especially in young players. By the excessive stretching of the fingers the tendons, joints, and ligaments of the hand are injured. This condition may become chronic if the patient continues to play, and, in course of time, the nerves are involved. Neuralgic pains of the nerves of the arms may occur, and are liable to extend to the shoulder and the back. Atrophy of the muscles may be a result of the disease in severe cases. The disease is caused by the circumstance that the ordinary key-board of pianos is too long for the hands of young players. A child when learning to play the violin uses a small instrument, and in like manner pianoforte-makers ought to construct instruments with a key-board adapted to the hands of children. The patients must abstain from playing for a certain time, and massage, combined with electricity and bandaging, is advisable. Zabłudowski (*Lancet*, Berlin Correspondent, May 19, 1900).

### PRURITUS ANI.

**Treatment.**—The following plan of local treatment of pruritus ani has personally proved uniformly successful: The removal or proper attention to the factors complicating the pruritus, if it be possible to determine that any such exist, will permit attention to the local treatment of the itching. It is important to see that the patient has a daily evacuation of the bowels, and, if necessary, medicines are to be used for this purpose.

The patient should be seen daily for a time, and an injection into the cavity of

the rectum, of 1 to 2 or 2  $\frac{1}{2}$  drachms, of the following prescription should be employed:—

- R Fluid extract of hamamelis, 1 fluidounce.  
 Fluid extract of ergot, 2 fluidrachms.  
 Fluid extract of hydrastis 2 fluidrachms.  
 Compound tincture of benzoin, 2 fluidrachms.  
 Carbolyzed olive- or linseed- oil, 1 fluidounce. (Carbolic acid, 5 per cent.)

M. Sig.: Shake well before using.

The patient is advised, prior to using this injection, that a desire to have the bowels evacuated will occur as a result of its employment, but that, if he will remain quiet upon the examining table, the sensation will quickly pass away.

Upon the first visit, if the skin has a very harsh and dry appearance, the entire surface is painted around the anus, for several inches outward, with a strong solution of silver nitrate (a saturated solution). If any break in the continuity of the skin exists, a little of a 2-per-cent. cocaine solution, applied to the abrasion or abrasions, will prevent the suffering incident to the use of the silver salt.

The application of the silver may have to be repeated two to three times; not oftener, however, than every third day. By its use the skin should become supple and healthy looking. So soon as the silver has dried and from the first visit and thereafter, there should be smeared over the anus and the cutaneous surface of the parts, for a distance of about two inches around the orifice, the officinal citrine ointment, or unguentum hydrargyri nitratis. The ointment is used in its full strength. Over the salve is placed a wad of absorbent cotton. The dressing is

kept in place with a T-bandage. If the patient comes in the morning for his treatment, he is advised to wear the dressing all day and over night. If the itching should annoy him during the night he is directed to bathe the anus with hot water, as hot as can be borne with comfort; but under no circumstances is he to rub the parts. He is also told that the application of the hot water will momentarily increase the itching, but that he is not to scratch. After he has used the water he is directed to use either a solution of black wash (*lotio nigra*), or calomel ointment, either of which is to be applied locally to the affected parts.

Prior to coming to the office for the next treatment he may wash the parts with Castile soap and hot water. In bathing the parts no rubbing is to be permitted.

For the first two or three weeks the patient is seen every day; then every other day for a like period or longer time, frequently for six weeks, after which time once or twice a week will suffice until such time as the disease is conquered. Usually this treatment consumes, in its entirety, not over six months. In no case should a definite promise be made to a patient as to the length of time the treatment will require.

Patients should be warned that at any time during the course of treatment the itching may return suddenly and be as severe as any time prior to coming under observation, but that this must not be deemed a bad omen, as such occurrences are often experienced, but have no special significance.

Sometimes, during the use of the nitrate-of-mercury ointment, the anus and adjacent parts become sore. Under these circumstances, the ointment will have to be discontinued for a few days; during the *interim* the calomel ointment is em-

ployed in the same manner as directed for the use of the other mercurial salve. L. H. Adler (*Phila. Med. Jour.*, May 17, 1900).

### PUERPERIUM, SLIGHT ELEVATIONS OF TEMPERATURE DURING.

Slight elevations of temperature during the puerperium are usually caused by saprophytes which gain access to the uterine cavity.

The saprophytes themselves do not cause fever. It develops only when the outflow of the bacteria-containing secretion is prevented.

The saprophytes which are found in the uterus in cases of slight elevation of temperature are probably identical with the saprophytes of the vagina.

Internal examination is usually a factor in causing slight elevations of temperature, only in so far as it causes vaginal wounds, which serve to further the development of the bacteria which are always present.

Slight elevations of temperature occur oftener by half in primiparæ than multiparæ.

Diminishing the duration of the third stage increases the number of slight elevations of temperature.

Long duration of labor, long duration of the expulsive stage, and premature rupture of the membranes have but little influence in the production of these cases. K. Frazer (*Gynaecology*, May, 1900).

### RABIES.

**Prophylaxis.**—In rabies mild and superficial contamination, or the application of antiseptics, is worse than useless. The best application is the actual cautery. Fuming nitric acid is about as good, but the wound left by it is deeper and more troublesome in healing. Unless the wound is very insignificant, it is better

to administer an anæsthetic in order that the cauterization may be thoroughly done. Such a procedure confers protection in about 90 per cent. of cases. In all suspected cases the best treatment should be instituted whenever possible, and, if this is done, it will yield 99 per cent. of successes. The shortest period for the Pasteur treatment is fourteen days, but it is often necessary to extend the treatment over a period of eighteen to twenty-five days. The injections are preferably given over the abdomen. R. J. Wilson (Med. Record, May 12, 1900).

#### STOMACH TROUBLES IN EARLY TUBERCULOSIS.

A study of the stomach conditions in early tuberculosis may be summarized as follows: 1. In early tuberculosis the secretion of HCl is very frequently excessive, the peptic glands being in a condition of irritability which causes stimulating remedies of the creasote class to disagree and act injuriously. 2. Oils tend to depress the secretory function of the stomach, and in consequence codliver-oil is likely to help the cases which the creasote class of drugs hurt, but, on the other hand, hurts the cases in which the gastric secretion is inactive and the other ones in which creasote and its congeners often do good. 3. Therefore, it ought to be the rule to ascertain the condition of the secretory function of the stomach before pushing either class of drugs. 4. When analysis of the gastric contents cannot be made, it is safer to combine creasote with codliver-oil, so as to let one neutralize the other in its effect on the stomach. 5. The motor function is very generally depressed in tuberculosis, and must be restored before a cure can be effected. Drugs avail little in this direction, but diet, exercise (especially in the open air), faradism and abdominal massage, except

when hyperchlorhydria complicates it, are the most valuable means of effecting the result. Boardman Reed (Phila. Med. Jour., May 12, 1900).

#### TETANUS.

In the treatment of tetanus all wounds should be thoroughly cleansed. The tincture of iodine is excellent for this purpose, a cloth being wet with it. Intracerebral injections of antitoxin have been personally used only in bad cases; in five such cases three patients survived. The method used was that of Kocher: a simple open wound was made by drilling through the bone with a common hand-drill, and the antitoxin was injected with an ordinary hypodermic syringe. An opening as large as a lead-pencil can be made under cocaine anæsthesia; the proper position is half-way between the outer angle of the orbit and a point in the middle of the median line of the skull directly over the auditory meatus. There was no pain or mental change; the pupils, pulse, respirations, and heart were absolutely unchanged. There was no evidence of later trouble so far as could be determined. In two cases the injections were made twice through the same wound. In some cases one could not see any striking effects. In some cases there was some decided benefit, even in those that were fatal. In one case of puerperal tetanus the woman was in an exceedingly bad condition: intracerebral injection by Kocher's method was performed, and the patient went thirty-six hours without spasms: she ultimately died. Robert Abbe (Med. Record, May 12, 1900).

#### TIC DOULOUREUX.

**Treatment.** — The surgical operations for tic douloureux, except those for the removal of the Gasserian ganglion, produce only temporary remissions; all the



medical measures have the same effect. As to the relative efficacy of the two measures, in most cases one can secure a remission by the medical measures almost as certainly as one can by surgery, except by the major kind. No drugs, however, and no surgical operation will arrest the disorder permanently.

For some years a systematic treatment for tic douloureux, by means of heroic doses of strychnine, has been personally advocated. After experimenting with this method of treatment for over six or seven years, and including about fifteen cases, these conclusions regarding it have been reached: In the early cases of this kind—that is to say, in the first and second years—the strychnine treatment will almost invariably arrest or control the disease in anæmic and exhausted patients. In cases that have lasted over six or seven years, and in those with neuritis and sclerosis, the result is doubtful, and there may be a failure to secure even a remission. In anæmic ones, however, even of long standing, it is often more effective, though relapses will occur. Among fifteen cases only four have proved distinct failures. In the very old cases, lasting fifteen or twenty years, medical treatment is practically valueless, no matter what is done.

Medical treatment is most successful which is addressed to the arthritic state, when that exists, and to the arterial sclerosis and gouty taint. In some of this latter, men of full habit and hard arteries, tonic measures do harm, and, after a course of rest and arteriosclerotic or neuritic measures, surgery should be promptly applied. All measures will be more effective if applied at the beginning of the disease, and again at the fourth or fifth year, when the trouble is at its height; or again at the period of the intermictic in those whose neuritic lesions

manifest early in life. C. L. Dana (Long, Amer. Med. Assoc., May 5, 1909).

### TYPHOID FEVER.

**Treatment.**—The mortality of typhoid fever, when cases are seen from the beginning, in personal opinion should not be over 3 per cent., if the following principles are carried out:—

First, absolute rest in bed from the earliest symptom giving rise to suspicion.

Second, the abstinence from the use of medicines, unless these are distinctly called for, for the meeting of some symptom. Mineral acids, fever mixtures, quinine, and the whole mass of drugs, which have been much given in typhoid fever, are either worthless or, perhaps, harmful when administered in the routine manner.

Third, the proper use of remedies boldly and in sufficient dose when they are strongly indicated to meet some symptom which has arisen.

Fourth, the careful use of baths when the temperature gets to 102°  $\frac{1}{2}$ ° or above.

Fifth, the administration of turpentine, commencing about the end of the second week, in every case. Both laboratory experience and clinical experience are positive in their concordance in showing that the drug has a specific local action on the typhoid ulcer and the bacillus which it contains.

Sixth, careful feeding, to give enough, but not too much food, somewhat meat foods to some cases being restricted to milk. H. C. Wood (Inter. Med. Mag., Apr., 1909).

### X-RAYS IN REMOVAL OF HAIR.

The removal of hair by Freund's method of electrolysis is attended by no disagreeable sensations and by no annoying symptoms beyond, at times, a slight erythema or pigmentation of the skin.

a short time. The skin, after removal of the hair, is left in the same condition as before, except for the absence of hair. There seems every reason to believe that in the x-rays we have an agent of the utmost value for the removal of hair. It is painless, not nearly so tedious as electrolysis, and can be applied to the hairs of a large surface at one time. When there are only a few large hairs to be removed electrolysis will still be probably the more convenient method, but there is no comparison in convenience between the two methods for taking off a large number of hairs from any given area. For instance, all the hairs from the back of the forearm can be removed together. The method is particularly adapted to cases in which it is desired to remove down and profuse growth of hair.

The mycotic diseases of the hair and hair-follicles, such as tinea tonsurans, favus, and sycosis are among the most intractable diseases that the dermatologist is called upon to treat. The difficulty is in getting at the peccant organisms. In practically all methods of treatment of

these affections the first essential is thorough epilation. In the treatment with x-rays, the hairs become loose and are removable without force. It is probable too that the effects of x-rays are not limited to their depilatory properties. The clinical course of the cases is such as to indicate that the rays have a marked bactericidal effect, an effect due either directly to the rays or to the stimulation of the tissues with the accompanying increased phagocytosis which the rays cause. In sycosis in particular the method has proved successful.

It is conceivable, of course, that this method could be applied in all conditions where epilation is needed. It has been applied with success by Gocht in wounds of the scalp in which healing was prevented by growth of hair into the wounds. It has not, so far as personally known, been applied for the removal of hairs in trichiasis or for the removal of hairs for any purpose about the eyelids. W. A. Pusey (Chicago Med. Recorder, Apr., 1900).

## Books and Monographs Received.

The editor begs to acknowledge, with thanks, the receipt of the following books and monographs:—

Transactions of the Twenty-first Annual Meeting of the American Laryngological Association, 1900.—Fourth Annual Report of the Board of Managers of the Pennsylvania Epileptic Hospital and Colony Farm, for the year ending December 31, '99.—Some points in the Diagnosis of Traumatic Injuries of the Central Nervous System. By J. T. Eskridge, M.D., Denver, '99.—A Study of Aural Vertigo. By Lewis S. Somers, M.D., Philadelphia, 1900.—Late Consecutive Oro-pharyngeal Syphilis. By Lewis S. Somers, M.D., Philadelphia, '99.—The Influence of Turbinal Hypertrophy upon the Pharynx. By Lewis S. Somers, M.D., Philadelphia, '99.—A Report of Two Cases of Metastatic Choroiditis Occurring in Children Following Measles. By Edward Stieren, M.D., Pittsburgh, '99.—The Present-Day Treatment of Diphtheria. By Robert E. Coughlin, M.D., Brooklyn, 1900.—The Diagnosis of Gastric Ulcer, with Report of Cases. By Frank H. Murdoch, M.D., Pittsburgh, 1900.—Stricture of the Esophagus and Electrolysis by a New Esophageal Electrode. By Charles D. Aaron, M.D., Detroit, '99.—Some Interesting Cases of Acquired Syphilis of the Nose and Throat. By William D. H. Brown, M.D., Chicago, 1900.—Foreign Bodies in the Maxillary Sinuses, with

Report of a Case. By R. J. Wenner, M.D., Cleveland, 1900.—Statistics of the Economic Sanatorium at Liberty, N. Y. By J. Edward Stubbert, M.D., 1900.—The X rays as a Diagnostic Agent in Pulmonary Diseases. By J. Edward Stubbert, M.D., Liberty, N. Y., 1900.—Atomic Conditions and Their Treatment, with Report of Cases. By Robert C. Kenner, M.D., Louisville, Ky.—The Treatment of Exophthalmic Goiter with Suprarenal Substance, with Exhibition of Cases. By S. Solis Cohen, M.D., Philadelphia, '98.—A Preliminary Note on the Treatment of Hay Fever with Suprarenal Substance, with a Report of Personal Experience. By S. Solis Cohen, M.D., Philadelphia, '98.—Abdomino-Perineal Procto-Sigmoidectomy. By James N. Ellis, M.D., Atlanta, Ga., '99.—Progressive Procedures in Bone Surgery. By James N. Ellis, M.D., Atlanta, Ga., 1900.—The Marine Biological Laboratory. By Professor E. G. Conklin, 1900.—The Farmer's Interest in Good Seed. By A. J. Pieters, U. S. Department of Agriculture, Washington, D. C., 1900.—Bread and The Principles of Bread-making. By Helen W. Atwater, U. S. Department of Agriculture, Washington, D. C., 1900.—Dietary Studies of University Boat-crews. By W. O. Atwater and A. P. Bryant, U. S. Department of Agriculture, Washington, D. C., 1900.—Co-operative Experiments with Grasses and Forage Plants. By P. Beveridge Kennedy, Ph.D., U. S. Department of Agriculture, Washington, D. C., 1900.—Experiment-Station Work, XIV, U. S. Department of Agriculture, Washington, D. C., 1900.—The Cotton-crop of 1898-99. By James L. Watkins, U. S. Department of Agriculture, Washington, D. C., 1900.—The Germination of Seeds as Affected by Certain Chemical Fertilizers. By Gilbert H. Hicks, U. S. Department of Agriculture, Washington, D. C., 1900.—Sources of the Agricultural Imports of the United States, 1894-98. By Frank H. Hitchcock, U. S. Department of Agriculture, Washington, D. C., 1900.—The Essentials of Hematology. Palisade Manufacturing Company, Yonkers, N. Y., 1900.—Sulla Fisiopatologia dei Nervi Olfattivi Relazione Fatta. Dal Prof. Vittorio Grazi, Firenze, Italy, 1900.

Corneal Corpuscular Activity. By J. E. Willets, Pittsburgh, Pa., 1900.—Report of a Case of Fibroma of the Neck. By J. A. Sutcliffe, Indianapolis, Ind.—Two Cases of Anomalous Spinous Process of Seventh Cervical Vertebra Articulating with the Scapula. By H. Augustus Wilson and J. Torrance Rugh, Philadelphia, 1900.—To Remove Blood from the Clothing. By J. T. Rugh, Philadelphia, 1899.—Eight Primary Movements of the Normal Spine as a Basis for Gymnastics in the Treatment of Scoliosis and Allied Conditions. A Preliminary Report. By J. T. Rugh, Philadelphia, 1896.—Some Remarks on the Symptoms and Operative Treatment of Bronchocele, Especially in Relation to Graves's Disease. By F. J. Shepherd, Montreal, 1899.—Non-malignant Gastric and Duodenal Ulcers, with Illustrative Cases. By T. E. Satterthwaite, New York, 1900.—Elephantiasis du Nez. Par M. le Dr. Cartaz, Paris, 1899.—Some Insects Injurious to Garden crops. By F. H. Chittenden, U. S. Department of Agriculture, Washington, D. C., 1900.—Economic Grasses. By F. Lamson-Scribner, U. S. Department of Agriculture, Washington, D. C., 1900.—Statistical Matter Relating to Principal Crops and Farm Animals, Transportation Rates, etc., in the United States—1899. U. S. Department of Agriculture, Washington, D. C., 1899.—Rabies in the District of Columbia. By D. I. Salmon, U. S. Department of Agriculture, Washington, D. C., 1900.—Farmers' Institutes. History and Status in the United States and Canada. By L. H. Bailey, U. S. Department of Agriculture, Washington, D. C., 1900.



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## C. M. A. J. van der Wal, P. H. Nijboer, T. O.

toxicon, from milk, which was poisonous for man and animals.

3. Bacteria may be introduced from without, or the ordinary saprophytic bacteria which inhabit the intestinal canal may take on a special virulence.

4. The most severe disturbances are caused by the metabolism of bacteria; these micro-organisms, by their activity, either produce acids or cause decomposition of albuminoid substances; the products act as powerful irritants to the intestines, and, by injuring the intestinal wall, gain access to the blood and lymphatics, in this way producing the local and constitutional symptoms.

5. There can be no doubt that specific intestinal infection may occur in infants. Typhoid fever, though not frequent in very young children, may also occur.

**Treatment.**—W. S. Lessenger<sup>2</sup> says that during the first part of an attack of diarrhœa no food should be allowed for twenty-four hours. It is not hard for a babe to live without much food for two or three days, if plenty of water is given it, with a little beef-extract added now and then. All starchy foods must be prohibited, until the patient is well under improvement.

The first medical treatment should be directed toward cleaning out the bowels and rendering them aseptic. For this purpose calomel is the best remedy, given in doses of  $\frac{1}{10}$  grain, combined with sodium bicarbonate, every hour until the passages are darker in color. This may be followed with oil or saline laxatives, which will thoroughly evacuate and cleanse them. Then a good intestinal antiseptic—among the best of which are the calcium, sodium, and zinc sulphocarbonates; salol, and guaiacol-carbonate—should be given. Copper arsenite acts as an astringent antiseptic,

and is very beneficial, especially in dysenteric diarrhœa. These remedies should always be given in solution. If there is much pain present, opium or some anodyne mixture may be given to allay it. Turpentine stupes or good spice poultices over the abdomen, kept warm, are very soothing, and will usually control the pain and restlessness as well or better than the opiates. If much fever is present, aconite should be used; later, if there is a tendency to collapse, strychnine arseniate or hypophosphite are to be given to sustain vitality. Great care must be taken to keep up the strength; for this some prefer brandy, others strychnine or brucine.

J. V. Shoemaker<sup>3</sup> states that when an acute case is seen early, and, above all, if particles of undigested food are passed with the discharges from the bowel, a dose of castor-oil and laudanum should be given.

In infantile diarrhœa, or cholera infantum, it is necessary to restrict the diet. Those of tender years should be fed upon simple, nutritious, and easily-digestible food, in accordance with the physiological laws of digestion. In such cases the use of bread, meat, and potatoes is forbidden. In artificially-reared infants the little patient should be restricted to sterilized cows' milk, modified as regards the water and sugar according to the age of the child, to barley-water; rice-water, or rice-water and milk; the white of egg whipped up with milk and slightly sweetened; to junket, or the expressed juice of meat.

Ipecacuanha in small doses is especially valuable, particularly in the diarrhœa of infants and young children.

<sup>2</sup> Iowa Med. Jour., Apr., 1900.

<sup>3</sup> Med. Bull., June, 1900.



Bismuth has a valuable sedative action upon the intestinal mucous membrane, and is of decided service in diarrhœa. On account of its comparative freedom from toxicity, it can be given to young subjects in appreciable doses. The subnitrate is the salt most frequently employed. The salicylate of bismuth is likewise serviceable in summer diarrhœa, and is more decidedly antiseptic than the subnitrate or subcarbonate. One or other of these salts may be effectively given in conjunction with ipecacuanha. In cases accompanied with much pain the last drug may be advantageously prescribed in the form of Dover's powder. Salol is an efficient disinfectant of the intestinal tract, and is of undoubted value in diarrhœa. By reason of the proportion of carbolic acid which it contains and the consequent possibility of damaging the kidneys, the urine should be watched while a patient is taking salol. Salicin can be given in doses of 1 grain to children one year of age.

Camphor is a valuable remedy in diarrhœa. It checks the growth of germs, dispels flatulence, arrests discharges, and combats the debility which has been caused by excessive drain.

In severe cases an efficient method is the irrigation of the bowel with large quantities of plain or medicated water.

An editorial,<sup>4</sup> in speaking of summer diarrhœa, says it should be remembered that none of the artificially-prepared foods are as good as fresh, pure cow's milk—and none are as cheap.

The mistake is often made of giving opiates and astringents at once in these acute bowel troubles. The first indication always is to completely free the alimentary tract of all offending material. This may be accomplished with small doses of calomel, or the salines, or

simply castor-oil. The latter is in most cases the best. A little camphorated tincture of opium may be added, if there is much pain. If the case is very urgent, lavage should be done, and the lower bowel thoroughly washed out by means of warm enemata. No opiate, or astringent, should be given with the view of stopping the diarrhœa, until the clearing out is complete. Then antiseptics and astringents should be administered.

Phenol salicylate, bismuth salicylate, and benzonaphthol are reliable agents. From 1 to 10 grains each, of bismuth salicylate and benzonaphthol, is a good combination. A little opium or Dover's powder may be added if pain is severe.

No milk should be given for a day or two, as this, even if pure, will become contaminated because of bacteria still present in the alimentary tract. Plenty of boiled water, and barley-water, flax-seed-water, or white of egg should be given. Later scrapings of raw meat are to be used, the return to the milk diet being gradual.

In the diarrhœa of infancy William T. Newton<sup>5</sup> says a brisk purge should be given, followed, in time, by lavage of the stomach and large intestine. Calomel is most frequently indicated and most usually employed.

Should the onset of the disease be sudden and the constitutional effect profound, evidenced by twitching of the limbs, great restlessness, delirium, or convulsions: rapid weak pulse; high temperature, dry skin, irritable stomach, distended and tympanitic bowels, foul-smelling and not copious stools, calomel in a single dose, adequate in quantity to cause prompt purgation,

<sup>4</sup> *Children's Clinic*, May, 1900.

<sup>5</sup> *Med. and Surg. Monitor*, Mar. 14, 1900.

should be administered. For infants of three months or under, 1 grain; over three months and under one year, 2 grains; and over one year and under three years, 3 grains may be given; this is to be followed in a few hours by stomach and bowel lavage and such further treatment as may be indicated. Should, however, the onset be gradual and no marked evidence of general poisoning present, and should the stools be copious and not conspicuously offensive in odor, then calomel is best given in broken doses of  $\frac{1}{4}$  grain every hour up to eight or ten doses, or until the characteristic green-colored stools are seen. In this form of the disorder, and where the stomach will tolerate it, castor-oil is preferable. It is essential, however, that full doses be given—2 drachms to a child a year old and 4 drachms to one four years old.

For the first several days of the disease, after the complete evacuation of alimentary tract by purgation and lavage, no means under our control are so effectual in checking the development of injurious micro-organisms as the withholding of all forms of food for a period of from twelve to twenty-four hours, and limiting the dietary to sterile water, and afterward to rice-water or barley-water, albumin-water, animal serum and the liquid beer preparation.

No form of food should be given for at least twelve hours after vomiting has ceased.

For the relief of the pain, which is sometimes present, opium is sometimes used to be given, but never until after the alimentary tract has been thoroughly evacuated. It is, however, absolutely contraindicated when the temperature is high, when cerebral symptoms are so evident, when the pain is still colicky, or when the stools are scant, infre-

quent, and offensive. Should an opiate seem to be imperatively demanded, enough only should be used to secure a diminution of pain and control excessive peristalsis—but never enough to control entirely the discharges or to cause stupor.

For a child one year old  $\frac{1}{4}$  grain of Dover's powder, or  $\frac{1}{4}$  minim of the deodorized tincture, may be administered as an initial dose and repeated every one, two, or three hours, according to needs and effects.

The washing of the intestines should be repeated at intervals of six or ten hours for the first two or three days, and less frequently afterward.

Stein recommends, for antiseptic purposes, a solution of salicylic acid of the strength of 1 to 2 parts per 1000, or of boric acid 5 to 10 parts per 1000, or of creolin  $\frac{1}{10}$  to  $\frac{2}{10}$  part per 1000, or of tannin 20 to 50 parts per 1000.

The possible retention and absorption, however, of an unknown quantity of the antiseptic used may occasion more or less systemic depression, and the resultant evil may more than counterbalance the good that might reasonably be expected from its employment.

The employment of the normal salt solution for intestinal irrigation purposes is just as efficacious and is not open to the above dangers and objections.

If the initial evacuation be effectual, and this followed by almost complete starvation for twenty-four hours, and the food be carefully selected and administered after that time, but little medication will be necessary in a large number of cases.

Among the drugs employed in the treatment of these affections at the present day experience has demon-

strated that the salts of bismuth are the most valuable.

They should be given, however, in full doses, suspended in mucilage with some aromatic water. To be efficient as much as 2 drachms of the subnitrate should be given, to a child two years old in twenty-four hours:—

**R** Bismuth subnitrate, 2 drachms.  
Mucilage acacia,  
Aqua mentha pip., of each, 1  $\frac{1}{2}$  ounces.

**M. Sig.:** A dessertspoonful every two hours.

Along in the later stages of the disease the administration of tannigen has been attended with the most gratifying results. The dose varies from 2 to 5 grains four times daily.

In instances where the temperature-range is continuously high, this indication is doubtless best met by hydrotherapy. Either the cool bath, the cold pack, or cool lavage of the intestines may be employed.

Stimulants are essential in the majority of cases, and admissible at all stages. Old brandy is the best preparation for general use, of which from  $\frac{1}{2}$  to 1 ounce should be given, to a child two years old, in twenty-four hours.

Seventy-one cases of infantile diarrhoea were treated by W. E. Fothergill and John Penny<sup>6</sup> by salol or petroleum. The ages of the children varied from two months to two years, almost half of them being under one year. Only 8 of the 71 children were fed entirely on the breast, and of these none died. Of the 63 bottle-fed infants three died.

Unsatisfactory results were obtained in 8 cases, by which is meant that recovery did not occur on salol or petroleum alone; but only after changes of

treatment and the use of other remedies.

The remaining 60 children recovered on salol or on petroleum, the diet being an ordinary one suitable to each child's age.

Salol alone was employed in 36 cases, 4 of them breast-fed. The drug was given in the form of powder;  $\frac{1}{2}$  grain every three hours was the minimum dose given, 3 grains every four hours was the maximum. The dose usually given to a child one year old was 2 grains every six hours.

Two children went from bad to worse and the treatment was changed, but both died. In 6 cases the results of salol were moderately good, but recovery was slow and had to be aided by the use of bismuth and opium. Twenty-eight children recovered from their diarrhoea on salol alone. Improvement was usually rapid and the motions were normal in from two to seven days, although some of the children had been ill for a fortnight previous to the commencement of treatment. In several cases the vomiting did not stop along with the diarrhoea, and some of the children "threw up their powders." The cough which so often goes with summer diarrhoea was not appreciably relieved by the treatment, and was often subsequently treated. The opinion was formed that salol in the form of powder is a mechanical irritant, at all events to the stomach of a child with diarrhoea. Thus, while observations confirm the belief that salol is a valuable intestinal antiseptic, in the future it will be given to children not more than once or twice daily, and mixed with some demulcent which will prevent it from acting as a mechanical irritant.

<sup>6</sup> Med. Chronicle, Apr. 1900.



Petroleum was used in 24 cases, only 4 of which were breast-fed. The preparation used was an emulsion containing 42 per cent. of petroleum, and the doses varied, as much as 1 drachm every four hours being given. The patient used for a child one year old was 1 drachm of the emulsion (i.e., 20 ounces of petroleum) three daily. One of the children died after various treatments had been applied. In 2 cases the results obtained on petroleum were unsatisfactory, and salol was substituted at the end of a week. In the remaining 21 cases recovery occurred rapidly and completely without any treatment beyond the administration of the petroleum emulsion. No derangement of the stomach was noticed in the cases so treated, the vomiting ceasing, as a rule, almost before the diarrhoea was checked. The motions began to be less frequent after two or three doses, and rapidly resumed their normal smell, color, and consistence. The treatment in some way favored recovery from the bronchial catarrh which accompanied the diarrhoea in a large proportion of the cases.

From clinical observation it is shown that petroleum exerts an influence on mucous membranes other than those of the alimentary canal.

The observations above mentioned were made during the period of summer diarrhoea. One dose of salol every day combined with three or four doses of petroleum has proved very useful in many subacute and chronic cases. Herewith may, of course, be used at the same time. Calomel and iodoformum cum creta act better when followed by petroleum than when taken in conjunction with mixtures of a more clinical nature.

According to D. F. Smith,<sup>1</sup> in cases

of infantile diarrhoea characterized by copious watery discharges it is necessary to resort to some astringent which will be antiseptic and not absorbed to any extent. Recently a chemical combination of 82 per cent. tannic acid and hexamethylenetetramine has been introduced under the name of tannopin, which is personally considered an ideal remedy in this class of cases. It is given in small doses of from 3 to 10 grains every three hours. It does not break up until it comes in contact with the alkaline medium of the lower intestine, when the tannic acid is freed and the hexamethylenetetramine liberates the most desirable of antiseptics, formalin. Children take tannopin readily, as it is tasteless and small in bulk. It may be given either on the tongue or in any kind of nourishment.

From a study of the action of ichthallin in intestinal affections Rolloy<sup>2</sup> reaches the following conclusions: 1. Ichthallin in maximum doses of 2 drachms daily can be taken continuously without causing constipation or irritation of the gut or kidneys. 2. It diminishes the excretion of nitrogen and thus allows of better proteid assimilation. 3. An increase in appetite and gain in weight are among its good results. 4. Abnormal putrefaction in the intestine is regularly diminished. 5. In simple chronic enteritis, as well as in cases complicated with chronic peritonitis or tuberculosis, good results are almost uniformly noticed. 6. Even subacute gastric and intestinal inflammations are favorably influenced. The proper dose is 5 to 10 grains three times daily for children under one year, and 10 to 15 grains for those over one year of age.

<sup>1</sup> Northwestern Lancet, Nov. 15, 1900.

<sup>2</sup> Munch. med. Woch., Apr. 24, 1900.

A. G. Servoss<sup>9</sup> states that ichthalbin is a combination of ichthyol and albumin which is insoluble in the acid juices of the stomach, but when it reaches the alkaline fluids of the intestines it is decomposed. This permits of the ichthyol acting on the intestinal mucous membrane. The albumin which forms a part of the ichthalbin has no therapeutic action, but merely serves to carry the ichthyol past the stomach. Ichthyol is a most valuable antiseptic. This is probably due to the large amount of silver which it contains. Its advantages are as follow: It is wholly tasteless unless administered in an alkaline medium; it is best given dry on the tongue or in capsules, the doses to be employed being very indefinite, as it is a non-poisonous substance. It is invaluable as an intestinal antiseptic, and at the same time stimulates nutrition.

Loach<sup>10</sup> advises rectal irrigation and medication in ileocolitis in children. The solution ordinarily chosen is the normal salt solution prepared by adding 1 teaspoonful of common table-salt to the pint of water and using from 1 to 2 quarts at each irrigation, which is given as follows: A fountain-syringe and a soft-rubber catheter of medium size are used. To prevent the curling of the catheter upon itself, its tip should be immersed in oil and introduced a short distance into the bowel, when water should be allowed to flow, thereby dilating the bowel and facilitating the entrance of the catheter. When the bowel is well distended by the solution, as evidenced by a return-flow, or upon examining the abdomen and finding it tense, the catheter should be detached from the syringe and left in place to permit the escape of water. In the same way medication can be directly applied to the highly-inflamed mucous

membrane. The bowel should first be cleansed by the normal salt solution before using any medication locally.

Thiercelin and Chevrey<sup>11</sup> have successfully used brewers' yeast in gastro-enteritis in children. An aperient is first administered. The intestine is then washed out, and a teaspoonful of dried yeast, or a dessertspoonful of fresh yeast, dissolved in 2 fluidounces of boiled water at about 98° F., is then introduced by a rectal tube. The tube is withdrawn, and the child is kept still so as to retain the injection as long as possible. This process is repeated thrice daily, the aperient, of course, excepted.

## GOUT.

**Etiology.**—An editorial<sup>12</sup> notes an abstract by Romme of an article by H. Kionka in which some interesting facts are given respecting the production of experimental gout in domestic fowls. The fowls were kept in cages and fed exclusively on hashed horse-meat, which had been previously stripped of sinew and fat, as much water as they wished to drink being also allowed.

The fowls took to the new diet very rapidly, and at the start it seemed to agree with them very well. But, after some time, ordinarily in from three to five months, they began to show signs of disorders presenting all the characteristics of gout.

The disease assumed different forms. In one variety, in which the symptoms appeared at an early date and ran a rapid course, the first changes observed in the fowls were that their gait became

<sup>9</sup> *Merek's Archives*, Apr., 1900.

<sup>10</sup> *Memphis Med. Monthly*, Jan., 1900.

<sup>11</sup> *Gaz. des Hôp.*, Jan. 9, 1900.

<sup>12</sup> *Canadian Jour. of Med. and Surg.*, May, 1900.

uncertain, and that they fell to the ground after hopping off the perch. The weakness in their legs went on increasing, and on certain days, when probably the pains were felt with more severity, they remained lying down, with their legs drawn under them, and took no food. Their joints were manifestly swollen. These attacks lasted a few days, after which the swelling of the joints disappeared and the fowls again began to eat and walk about.

After some time the attacks became more and more frequent, appetite disappeared, and the fowls became thin and died. In this form of the disease slightly marked deposits of urates were found around the joints when examined post-mortem. The tophi were well developed in a second variety of the disease, which was not attended with real attacks of gout, as in the first-mentioned case, but which presented only a simple, temporary aggravation of the symptoms of gout; i.e., an intermittent zont and joint in walking. In these cases, when examined post-mortem, the tophi, which were well marked, were found in the joints and between the muscles at the insertion of the legs and wings. The third variety of gout attended the fowls, with deposits of urates on the serous membranes and infiltration of uric acid in the kidneys. In all these varieties of gout the kidneys of the fowls, when examined post-mortem, were found to be affected with acute nephritis. There was infiltration of the small coils of the kidneys, the epithelium of the convoluted tubes had disappeared, and did not stain well, and there was also destruction of the tubuli with urates.

The interstitial changes in the fowls fed on meat presented the following characters: With 150 grammes of meat

a day, and water *ad libitum*, the weight of the total excrements ranged from 200 to 380 grammes, and from 10 to 12 grammes of dry matter. The quantity of nitrogen eliminated each day oscillated between 3.40 and 5.40 grammes; ammonia, 0.30 gramme (average). The quantity of uric acid was very large, ranging from 7 to 11 grammes a day.

When lime, in the form of pulverized egg-shells, was given to the fowls, in quantities of 10 grammes a day, the interstitial changes were modified in the following manner: The quantity of excrements was increased, sometimes exceeding 500 grammes a day, with 30 grammes of dry matter; at the same time, the reaction, which has previously been acid, became alkaline. The elimination of nitrogen was unchanged, that of ammonia was slightly increased, and the quantity of uric acid was lowered by from 40 to 50 per cent., fluctuating between 3.50 and 6 grammes *per diem*.

**Diet.** In the treatment of chronic gout, while William Bain<sup>12</sup> does not believe in any hard-and-fast rules for all cases, there is one which should not be forgotten, namely: moderation. In certain cases this and that may be forbidden, but until the total quantity is restricted no progress is made. The amount of exercise the patient habitually takes must be considered when determining the diet. As it has been shown that a diet consisting largely of pens and beans is capable of producing more alloxur bodies than one composed almost exclusively of animal food, gouty patients should be advised to partake sparingly of leguminous food and foods rich in nuclein. Those who advocate a purely vegetarian diet in gout do not take a sufficiently broad and compre-



hensive view of its pathology and treatment. Proteids, whether they be of vegetable or animal origin, are absolutely necessary, and the essential point is to give the kind of proteid most easily digested, and just that amount which will be digested with probable certainty in the normal time. Carbohydrates have no influence on the uric-acid excretion, but their liability to produce acid fermentation and to retard proteid digestion is to be remembered. Fats should be curtailed, as they are prone to produce indigestion. A mixed diet is the most desirable, providing the digestion admits of it. If regular action of the bowels cannot be obtained without artificial means, drugs having a chologogic action should be used.

Although it is advisable, as a rule, for gouty patients to abstain from alcohol, there are a certain number of cases, chiefly of the asthenic type, where it is necessary to order a stimulant with one or more meals. The alcoholic beverages which are the least injurious are probably well-matured whisky and good sound claret; but individual idiosyncrasy has to be considered.

Exercise out-of-doors is of undoubted value in chronic gout, and during inclement weather in-door exercise is not to be despised.

W. H. Porter<sup>14</sup> states that the diet should at all times be free from an excess of the saccharine elements and all substances that easily tend to excite putrefactive fermentation. It should be one that is as little irritating to the alimentary canal as possible. The plain diet largely composed of the animal class is little likely to undergo putrefactive fermentation. With it there is no undue irritation to the alimentary canal. Thus, one reduces to the lowest degree the growth and activity of the putrefac-

tive fermentative micro-organisms that may gain access to the intestinal tract.

If at the same time the total quantity of food ingested is reduced so that it will never exceed the oxygenating capacity of the system, the two main predisposing factors in the production of our gout and rheumatism have been obliterated or removed. If to this is added suitable medication to augment digestion and absorption, and to stimulate glandular action in general, many cases will make speedy recoveries that otherwise would become chronic and incurable.

The main thing to be accomplished in all cases is first to get the quantity well within the oxygenating capacity, and then aid the system to properly digest and utilize the food-pabulum introduced into the system.

**Treatment.**—Fortescue Fox<sup>15</sup> holds that, while the chemistry is still in doubt, gout may accurately be called a disorder of metabolism. It is often hereditary, often brought about by changes and phases in the individual—such as the changes incident to the epoch of middle age—and often, also, unaccompanied by articular manifestations. Alcohol in all forms tends to provoke and increase this disorder. In some cases a very minute quantity of wine aggravates all the symptoms. Elimination is the secret of successful treatments, and waters and baths are only operative as they effect a gradual restoration of normal elimination. Setting aside the internal use of waters, very much can be done by baths alone, as at Aix-les-Bains, in encouraging elimination by the skin. Such treatment usually produces a recrudescence

<sup>14</sup> N. Y. Med. Jour., Mar. 24, 1900.

<sup>15</sup> Brit. Med. Jour., Apr. 21, 1900.

of acute symptoms, a more active phase of disorder replacing the chronic phase; but this, if not excessive, is of favorable augury. In time it will be recognized that all cases of gout should be treated by rational methods.

In noting the action of various drugs on the excretion of nitrogen in gout, William Bain<sup>16</sup> says the study of the elimination of nitrogen in gouty cases is of special importance on account of the relationship which uric acid holds to gout, and the consequent view that gout is essentially a disease of disordered metabolism. Contrary to expectation, it was found that after sodium salicylate there was only a small increase in uric acid, with a slight augmentation of the alloxur bases relative to the acid. Under quinine, on the other hand, while the urea fell somewhat, the uric acid was markedly increased; but neither the phosphorus pentoxide nor the bases showed a corresponding increase, thereby denoting that this drug probably acts not by increasing the production of uric acid, but by eliminating a part of that stored in the blood. The bearing of this fact on the treatment of chronic gout will be appreciated. It is also noticeable that the increased excretion of uric acid was maintained for some time after cessation of the drug, the patient's condition being at the same time ameliorated. It is satisfactory to note that the experimental evidence adduced confirms the opinion, based on empirical knowledge, expressed by Sir Alfred Garrod, that quinine is a powerful prophylactic agent in gout, this opinion being subsequently corroborated by Dr. Lafl.

The raised excretion of uric acid with potassium iodide was probably attributable to the maintained effect of quinine. The value of potassium iodide as

chronic gout is founded rather on its apparent power of retarding cardiovascular and renal changes, and reducing albumin in the urine. Under colchicum a slight advance in the uric acid occurred. That it has an invariable effect on the excretion of uric acid is extremely doubtful. The result with quinine on the excretion of uric acid is contrary to the diminution usually observed. This may be accounted for by the continued improvement in the patient's condition.

A. P. Luff<sup>17</sup> strongly shares the view of the late Sir William Roberts, that uric acid, when first introduced into the blood, exists solely therein as the sodium quadriurate. This substance is, in the dissolved state, a very unstable body, and soon changes into the sodium biurate, which first assumes the gelatinous and soluble form. This gelatinous modification, if not eliminated in the urine, is converted either slowly or rapidly, according to various conditions, into the crystalline and almost insoluble variety, which is then precipitated, and, by its deposition in various structures, causes the gouty paroxysm. It is obvious that if by any means the conversion of the soluble gelatinous biurate into the insoluble crystalline form can be delayed, then the advent of the gouty paroxysm is also delayed, and if, during this period of delay, the elimination of the soluble gelatinous biurate is promoted, then the gouty paroxysm may either be considerably diminished in severity or may even be averted altogether.

Personal study has been made of the physical and chemical properties of this gelatinous form of the biurate, and especially the effects exerted by certain

<sup>16</sup> Brit. Med. Jour., Apr. 7, 1900.

<sup>17</sup> *Ibid.*

drugs on its conversion into the crystalline form. The drugs the influence of which on the gelatinous biurate were experimentally investigated are sodium bicarbonate, sodium phosphate, potassium bicarbonate, potassium citrate, lithium carbonate, lithium citrate, piperazin, and lysidin.

The results show: (1) that sodium salts considerably accelerate the conversion of the gelatinous biurate into the crystalline variety, and that their employment in the treatment of gout is apparently not desirable; (2) that potassium salts delay the conversion of the gelatinous biurate into the crystalline form, and also that when the conversion is once started it is slowed by the presence of these salts; (3) that lithium salts, although they do not delay the initial conversion of the gelatinous biurate, yet when the conversion is once started it is slowed by the presence of these salts, and especially by the lithium carbonate; (4) that piperazin does not delay the initial conversion of the gelatinous biurate, and but slightly slows the conversion when once started; and (5) that lysidin, although it delays the conversion of the gelatinous biurate into the crystalline form, yet when the conversion is once started it has practically no effect in slowing it. From the results of these experiments it appears that for the special purpose referred to in the treatment of gout the potassium salts are the most useful, that the lithium salts rank next, and that piperazin and lysidin are not nearly so useful. These results are entirely in accord with personal clinical experience.

Davis Ross<sup>18</sup> is opposed to the quadriurate theory, and believes that the uric-acid compound exists as a mixture of biurate and uric acid in loose combination and in varying proportion of the

molecules. He believes that goutiness is induced by abnormal albuminous disintegration, chiefly caused by deranged hepatic metabolism, and that the initial difficulty is a digestive one. He considers that uric acid is a normal constituent of blood; hence one has to look elsewhere for the *materies morbi* of gout. At present the man rather than the ailment has to be treated; the diet and general regimen have to be adopted in every individual case. A pill of colchicum and mercury given over-night, and followed by a saline aperient in the morning, not only improves the general condition in goutiness, but very often wards off declared gout. Sodium salts are very useful in the gouty state. Colchicum is the remedy *par excellence* in acute gout. Its action is probably that of a powerful cholagogue and of a cardiovascular depressant.

Tyson<sup>19</sup> thinks that the salicylate of sodium is the best remedy for acute attacks of gout, both for shortening the duration of the attack and diminishing the pain. As to the effect of the sodium bicarbonate as contrasted with the potassium bicarbonate, he has never made any comparison between the two remedies, but he is inclined to believe he has seen gout kept in abeyance by the continuous liberal use of the Vichy waters, of which sodium bicarbonate is the important alkaline constituent.

Haig<sup>20</sup> says that there are some conditions in which salicylates will not do good. One of these is where it is given in sequence to colchicum, and another is the condition of debility.

Butler Harris<sup>21</sup> draws attention to

<sup>18</sup> Brit. Med. Jour., Apr. 21, 1900.

<sup>19</sup> *Ibid.*, Oct. 28, '99.

<sup>20</sup> *Ibid.*

<sup>21</sup> *Ibid.*, Apr. 21, 1900.



the mitigating effect of arsalin painted on an inflamed gouty joint. The pain is speedily relieved, and the inflammation lessened by such treatment.

L. L'H. McCORMICK has successfully used arsalinosis a few times in gouty deposits. In one case the attacks were numerous and severe, and had left the characteristic deposit around the knuckles to such an extent that the freedom of motion of the fingers was seriously impaired, while the removal of rings that had formerly been loose was an absolute impossibility.

A solution of the iodide of lithium rather than the citrate was used.

The fingers of the patient were first prepared by being sponged off with chloroform.

This having been carefully done, thin slivers of the borated absorbent cotton were wrapped around the joints and thoroughly wetted with a solution of the lithium. The fingers were then covered by the metal handles of the ordinary galvanic battery, each being connected with a terminal from a cord leading to the positive pole, the negative being a flat metal plate upon which the other hand was fixed, and the current turned on.

The strength was governed somewhat by the features of the patient, who found from 15 to 25 milliamperes about sufficient, as the metal was separated from the sensitive integument by only two thin layers of saturated cotton.

The current was thus applied from eight to ten minutes, and on the removal of the electrodes and return the joints were immediately immersed for say one minute more with the idea of inducing to all the salt possible, and also of increasing the local circulation by this means. This was done daily as far as

possible, and after the third treatment there was a marked diminution of the tenderness. The motion of the joint was much slower in being affected, but at the end of two weeks the patient was so much encouraged that she was no longer in doubt as to the success of the method. The size of the joint gradually lessened, and in six weeks more she could remove her rings, something that she had been unable to do for years.

The treatment was here interrupted by enforced absence from town, but on her return it was resumed until her departure for Europe, whither she felt warranted in going by being almost well again.

The second case treated in this way was even more satisfactory, and resulted in the entire disappearance of the deposit.

## PNEUMONIA, SERUM TREATMENT OF.

J. K. Crook<sup>23</sup> remarks that many investigators, led by the Klemperer brothers, have concluded that it is to the development of this antitoxin in the system that the phenomenon of defervescence by crisis is due.

Much activity has for several years been devoted to the production of an artificial antipneumotoxin which might be available for immunizing, or which, after the disease was contracted, might be introduced into the system in anticipation of the natural product, thus hastening the occurrence of crisis and cutting short the disease in an early stage. The most striking experiments have been those reported by the Klemperers, Ed. de Roux, Paine, Mossny, Em-

<sup>23</sup> N. Y. Med. Jour., Apr. 7, 1900.

Gaillard's Med. Jour., May, 1900.

merich, Neisser, Washbourne, Weisbecker, and Fourruere.

The reports are generally encouraging, but by no means satisfactory. All observers admit the great difficulties attending the elaboration of an antitoxin of uniform strength and stability.

The most skillful and experienced pathological chemists, with every facility for scientific investigation, have not yet succeeded in standardizing a preparation. Bearing in mind, however, the brilliant results obtained in diphtheria, there is good reason to expect that a serum of equal potency in pneumonia may yet be produced. It is along these lines that our chief hope for future improvements in the management of the disease appears to rest.

Antonio Fanoni<sup>24</sup> has used Pane's serum with marked success in private practice in 18 cases of pneumonia, 4 of which were in children under the age of 3 years. Of the 18 cases only 1 died. This patient, whom the writer saw on the ninth day of his illness, and who was in the pre-agonal stage, was given 40 cubic centimetres of Pane's antipneumonic serum hypodermically at one dose without much hope of saving his life. His temperature at the time of injecting the serum was 105°; his respiration, 56; his pulse, 132 per minute. Consciousness was clouded, and the vegetative functions were disordered. On the following day the patient's general condition was considerably improved, but the serum only served to retard death for two days.

In the 4 cases of pneumonia in children treated with the serum there was no doubt as to the efficiency of Pane's remedy. All these children recovered after a few days' treatment. Of the last two cases, one was 18 months old, and received 4 injections of Pane's serum.

In the other, a child of 2 years, three injections of the serum were sufficient to establish a cure.

This serum, when injected in cases of pneumonia early enough, in sufficient quantity (40 cubic centimetres of No. 2 daily), and if not deteriorated by age, quickly produces a lowering of the temperature, and an improvement in the subjective comfort of the patient, as well as an amelioration of all the other symptoms. Resolution also tends to take place more rapidly.

The antipneumonic serum, like all other serums (including the diphtheria antitoxin), has no effect when used in the pre-agonal stage of the disease. All that it can do is to retard death.

J. C. Wilson<sup>25</sup> states that in the German Hospital, in Philadelphia, the antipneumococcic serum was used in 18 cases of croupous pneumonia, but it was not used to the exclusion of other treatment. The injections were given in the majority of instances immediately after admission to the ward. There were 2 women and 16 men in whom the treatment by injections of serum was used. They varied in age from 15 to 48 years. They were admitted to the ward from the first to the sixth day of the disease. The temperatures ranged from 101.2° to 105°; the pulse-rate varied between 90 and 128. Albumin was present in 15 cases, casts in 9, and blood in 1. There was leucocytosis in 13 cases. The pneumococcus was found in 15 of the cases. The serum, which varied between 7 and 53 days in age, was given hypodermically over periods varying from 6 to 8 days. Total doses of from 22 cubic centimetres to 460 cubic centi-

<sup>24</sup> *Pediatrics*, May 15, 1909.

<sup>25</sup> *Boston Med. and Surg. Jour.*, June 14, 1900.

metres were given. The effects seemed to be better when a recent serum was used. After the injections the temperature became lower, the pulse slower, the pain less, and the patient felt better. Four of the patients died. Delirium came on either by crisis or by rapid lysis. The duration of the attack did not seem to be lessened or the convalescence hastened. In a series of 29 cases treated at the Pennsylvania Hospital at the same time without serum 4 died.

Koranyi<sup>26</sup> says the serum treatment of pneumonia has no undesirable sequelæ, but at the same time it is of no specific action. He recommends inhalations of oxygen.

A. O. J. Kelly<sup>27</sup> notes the case of a man, an alcoholic, aged 35 years, who was admitted on the fourth day of an attack of pneumonia of the right lower lobe. On the day after admission the left lower lobe became consolidated, and 20 cubic centimetres of antipneumonic serum were given every three hours for seven doses. The leucocytes were at first diminished, but later increased. The autopsy confirmed the clinical findings. The serum was of no avail in this case.

Alexander Lambert<sup>28</sup> observes that the pneumonia serum at present does not seem to shorten the duration of the disease, nor cut short the pneumonic processes in the lungs, nor bring about the "blood clearing." But it does—in, in certain cases, to prevent a general pneumonia or septicæmia, and that in these cases it may save life.

Heldberg<sup>29</sup> regards the treatment with antitoxic serum as still in the experimental stage. The serum used has been obtained from the blood either of patients convalescent from pneumonia or of animals treated by gradually increasing doses of cultures of the pneumo-

coccus. The more encouraging results have been obtained by the former method.

Joseph Macfarland<sup>30</sup> says the serum is prepared by administering live cultures of the pneumococcus to horses. The organism is difficult to grow, and the measure of the toxin is not accurate. The organism is kept virulent by growing it alternately on artificial culture-media and in the rabbit. The nature of the serum is uncertain; it may be antitoxic or it may be antimicrobial, possibly the latter. It is probable that the serum may be used for other micro-organisms than the pneumococcus. The use of the serum from convalescents is unreliable. It is possible that the serum should be injected into the blood-vessels in order to produce the desired result.

## RICKETS.

**Diagnosis.**—R. Tunstall Taylor<sup>31</sup> notes a case which points out very clearly the close relationship which occasionally has been found to exist between syphilis and rickets.

He would suggest the advisability, in all cases of rickets where the liver is enlarged, of instituting an antisyphilitic treatment, as this is the most exact means for diagnosis, and can do the child no harm. In many cases the family history is lacking, and proves absolutely negative in throwing light on its specific nature.

According to W. N. Berkeley,<sup>32</sup> no

<sup>26</sup> *Lancet*, May 5, 1900.

<sup>27</sup> *Boston Med. and Surg. Jour.*, June 14, 1900.

<sup>28</sup> *Jour. Amer. Med. Assoc.*, Apr. 14, 1900.

<sup>29</sup> *Ther. Monats.*, Feb., 1900.

<sup>30</sup> *Boston Med. and Surg. Jour.*, June 14, 1900.

<sup>31</sup> *Pediatrics*, Jan. 15, 1900.

<sup>32</sup> *Ibid.*, June 15, 1900.



case of rickets should be treated without a thorough investigation into the shape and size of the liver and spleen. Compared with the liver, the spleen is more apt to reach really remarkable dimensions.

It should not be assumed that a large spleen is due only to rickets until syphilis has been reasonably set aside and a careful blood-examination has excluded leukæmia and malaria, and has established the existence of a simple secondary anæmia. If there be any doubt of the diagnosis, the rapid improvement of the patient upon codliver-oil and syrup of iodide of iron will soon make the question perfectly plain.

From an examination of the spleen in 16 children suffering from rickets, P. N. Sasuchin<sup>33</sup> comes to the following conclusions:—

1. That rachitis is accompanied by definite, characteristic changes in the spleen. While these changes may be, in part, due to complications, it is strange that they are so uniform, no matter what the nature or the severity of the complications, and that they correspond in intensity to that of the changes in the bones.

In the control examinations in children who had died of pneumonia, etc., without having had rickets, the changes in the spleen were not always present, and always less well marked than in the rachitic subjects.

2. Rachitic changes in the spleen appear at an early age in nurslings (two months) and their traces remain a long time.

3. The pronounced cases are characterized by hypertrophy of the connective-tissue stroma, narrowing of the lumen of the arteries of the spleen, and atrophy of the Malpighian bodies. Similar conditions in the spleen were found

in syphilis and tuberculosis, but these diseases were carefully excluded in all the cases examined.

4. The hamatopoietic function of the spleen is evidently weakened by these changes.

5. The examination of the spleen in the initial stage of rachitis is very much to be desired, as it may give a clue to the etiology of this disease.

**Treatment.**—In the initial stage of rickets Hille<sup>34</sup> thinks that the treatment should include the observance of proper hygienic measures, the most important being a rational bed. A horse-hair mattress and a pillow filled with the same material is all that the child requires, and feather beds must be prohibited. The infants must never be allowed to sleep fully dressed, as is often done. These measures, together with frictions with dilute alcohol, if needed, will help to combat the tendency to profuse perspiration, which is such a fruitful source of the catarrhs of both the respiratory and the gastro-intestinal organs in rachitic children. Phosphorus, preferably in combination with codliver-oil, is especially valuable in the presence of laryngospasm or general convulsions. Another very effective remedy is salt baths, which are best given in 2- to 10-per-cent. strength at bed-time. They are well borne, even by the youngest infants, and the bath at 27° C. (80.6° F.) continued for ten minutes will generally secure a quiet, refreshing sleep during the whole night. By timely intervention one can prevent the development of the severe types of rickets.

F. B. Earle<sup>35</sup> observes that children who have been fed on a carbohydrate

<sup>33</sup> *Jahrbuch f. Kinderh. Med.*, 1900.

<sup>34</sup> *Der Kinderarzt*, Apr., 1900.

<sup>35</sup> *Chicago Clinic*, Apr., 1900.

or nitrogenous diet should be placed on a mixed diet, so that the fat predominates, and, indeed, in some instances the carbohydrates may be reduced to a minimum.

Children demand about four times the amount of fat that is required in adult life.

If the child is on a milk diet the percentage of fat can easily be increased by the addition of cream. If it be older there is no better way than to saturate baked potato with gravy, bacon-fat, or butter. Rickety children will eat pure butter with a relish that is astounding.

Lime, either as lime-water or the lactophosphate, is apparently of value, although its efficacy is commonly overestimated.

Phosphorus is unquestionably a valuable adjunct in certain forms, especially where an early diagnosis is made:  $\frac{1}{100}$  to  $\frac{1}{50}$ , and continued.

Codliver-oil seems to be a specific.

Due attention should be given to hygiene, and often the treatment can be supplemented by the judicious administration of iron, arsenic, and strychnine.

Stoolizamer<sup>2</sup> has obtained good results in 76 cases of rickets with suprarenal-gland substance.

## SCARLET FEVER.

**Diagnosis.**—J. P. Crozer-Gribble<sup>3</sup> states that the following conclusions in regard to scarlatina miliaris refer chiefly, not to a very slight or indistinct development of vesicles in scarlatina, which is a symptom of great frequency, but to the great development of the symptom constituting the scarlatina miliaris of older writers:—

1. However frequently miliaria may attend severe cases of scarlatina, the

oft-expressed view seems untenable, that its presence is an indication that the case is severe.

2. The same statement applies to the intensity of the scarlatinal eruption and its relation to miliaria. There appears to be no connection between the two. There seem to be different causes acting to produce the efflorescence and the vesiculation, although these causes are undoubtedly frequently associated.

3. Contrary to the opinion of certain writers, there appears to be no necessary relation between the amount of scarlatinal peeling and the degree of miliarial eruption.

4. The view of Thomas is very probably correct (and, in so far as they differ, those of the other writers quoted are incorrect), viz.: that the development of miliaria in scarlatina depends largely on some peculiarity in the skin of the patients, rather than on any special intensity of the scarlatinal rash or other factor. The observation of Henoch upon a family tendency to miliarial scarlat fever seems to support this view.

5. It is perfectly possible in occasional cases to have the presence of abundant miliarial eruption cause decided difficulty in diagnosis, and even lead into error.

**Etiology.**—W. J. Class<sup>38</sup> has examined cultures taken from the throats of more than three hundred patients with scarlet fever and scarlatinous sore throat. Of 300 of these, the primary throat culture showed the presence of the micro-organism personally described as the specific scarlet-fever germ.

The chief cultural characteristic is

<sup>38</sup> Deut. med. Woch., No. 37, '99.

<sup>39</sup> Phila. Med. Jour., May 12, 1900.

<sup>40</sup> Jour. Amer. Med. Assoc., Feb. 24, 1900.

the glutinous character of the growth. This characteristic is usually, though not always, well marked in primary cultures of the scarlet-fever germ taken from the throat; subcultures, as a rule, do not show it. The chief morphological features are its size, primary cultures usually showing it as an organism resembling a huge gonococcus, and the fact that unless the culture is rubbed very hard the germs will show a distinct tendency to group in bundles. A given culture taken from the throat, therefore, which, when a loop of the material of which it is composed is taken up, shows a tendency toward being drawn out into threads, and which under the microscope shows large numbers of large diplococci having a tendency toward clumping, may be safely called a scarlet-fever culture.

The following are the reasons for believing this "*diplococcus scarlatinæ*" to be the causative factor of scarlet fever:

1. Because the germ is invariably present in the throat secretions, blood, and scales of a patient having scarlatina, and because it is a separate and distinct organism, not heretofore described.

2. Because it has been proved to be a pathogenic micro-organism, killing mice, when injected in minute quantities, in a space of time varying from less than one to twenty-four hours according to its virulence.

3. Because it produces, in swine, a disease whose macroscopical lesions closely resemble those seen in scarlet fever as it occurs in the human patient.

4. Because the presence of blood from a patient who has just recovered from an attack of scarlet fever inhibits its growth.

5. Because the subcutaneous injection of a virulent culture into guinea-

pigs will, under certain conditions, produce a nephritis.

6. Because personal experiment apparently shows that the blood-serum of a person who has passed through scarlet fever protects an animal from the invasion of the germ.

**Prophylaxis.**—According to Floyd M. Crandall,<sup>39</sup> scarlet fever is not contagious during the period of incubation. It is doubtful, indeed, whether it is contagious before the appearance of the eruption.

As the period of incubation in scarlet fever is short and somewhat variable, every child who is known to have been exposed should be isolated. In nearly 90 per cent. of the cases the incubation is between two and six days. If the patient is isolated soon after the initial symptoms have appeared, other children in the family are very unlikely to have taken the disease from him.

Whatever may be thought of the propriety of isolation during the period of incubation, there can be no doubt of its importance after the first symptoms have appeared. Four symptoms, when occurring in combination, are extremely suspicious of scarlet fever: *i.e.*, vomiting, fever, rapid pulse, and sore throat.

The patient having passed through the acute stages of the disease, the question arises as to how long he is to be isolated. The conventional forty days is only to be regarded as approximate. It is rarely too long. Desquamation is liable to persist in small areas of the body after it has disappeared from other portions.

Desquamation is liable to persist about the finger-nails after it has disappeared from every other part of the body.

<sup>39</sup> Med. News, June 2, 1900.



Desquamation is not the only factor by which the period of isolation is to be determined. Purulent discharges certainly contain the infective principle of scarlet fever. After it, no child who is still suffering from otitis, chronic pharyngitis, purulent coryza, suppurating glands, or a purulent discharge of any kind, should be allowed to mingle with others. Ashby insists upon retaining all cases in the hospital for 42 days and discharging none until desquamation is complete. Still, he has found that from 2 to 4 per cent. of such cases are infective.

A consideration of facts proves the unwisdom of adopting any single period as necessary for the quarantine of scarlet fever. In many cases six weeks is ample and the patient may be released with perfect safety to others. In other cases he is almost as dangerous at this period as in the first week of the eruption. The rule should be, not a fixed number of days or weeks, but the time that is necessary for the disappearance of all desquamation and of every kind of purulent discharge.

The practitioner should never visit a case of scarlet fever without wearing a gown of cotton cloth. It should be made to button closely about the neck and wrists and should be long enough to reach to the feet. When beginning the treatment of a patient with scarlatina or diphtheria, one of these gowns should be taken to the house. It should be put on before entering the sick-room and should be hung up in the bathroom or other suitable place upon leaving. A cap to protect the hair is desirable, but not so necessary as the gown. Upon the termination of the case the gown can be thoroughly boiled and used again.

The hands and face should be disinfected after every visit to a scarlet fever

patient. The same is true of the stethoscope, which should be used for all physical examinations of the chest. The tongue-depressor or any other instrument used about the throat should not be taken from the room. In few diseases is the importance of a qualified nurse greater than in scarlet fever. One should be secured wherever it is possible. The value of a competent nurse in scarlet fever can hardly be overstated.

The selection of the sick-room is of much importance. In tenement-houses and flats there is but little room for choice. The child should be placed in the front room and should never be allowed to remain in a middle or dark room. The door in the hall should be sealed with strips of paper, as is done in fumigating. The door communicating with the rest of the apartment should be kept closed, and the children are to be kept in the rear rooms, even if it is necessary to remove the beds from the intervening rooms. If possible, the other children should be sent away. To insure any safety whatever, the nurse must be isolated, as well as the patient.

The ease of preventing the spread of the disease is greatly augmented if there can be a third person to act as intermediary between the nurse and the person who has the care of the other children. To this person may be assigned the duty of carrying the food and various articles required by the nurse and of carrying away the soiled clothing and performing the numerous offices outside the sick-room.

While a room at the top of the house is, for many reasons, the most desirable, one on the floor below should be selected should there be no bath-room on the top floor. A most satisfactory arrangement is a back room on an upper

floor opening into a bath-room, the latter having also a second door into the hall. Two doors thus intervene between the hall and sick-room. By placing a small gas-stove in the bath-room much labor is saved and isolation can be made complete.

The hanging of dampened sheets before the doors is a measure of some practical value.

General inunction of the body is a most effective measure, both of treatment and prophylaxis. It may be begun as soon as the eruption has appeared and should be continued until desquamation has ceased. During the stage of eruption before desquamation has begun, a simple bland oil is most desirable. Antiseptics can be of little avail and all irritating preparations should be avoided. Lanolin is one of the best of these or a mixture of equal parts of lanolin and cold cream. Vaseline may be employed in their stead. When itching and irritation of the skin is great, a 5-per-cent. ointment of boric acid and vaselin is sometimes effective. Sponging with a solution of borax and water, followed by carbolized vaselin, will also give temporary relief. Carbolized vaselin, however, should not be used over large surfaces.

After desquamation has begun, antiseptics may be added to the ointment or oil used for inunction. The boric-acid ointment already referred to is one of the best. A 2-per-cent. ichthyol ointment has its advantages, but is objectionable to many patients because of the odor. Carbolic ointment may be used over limited areas. During this stage the inunction may be preceded by a bath or sponging with water at the temperature of 90° F. The water may be plain or it may contain a small amount of salt or borax.

Ointments or oils of disagreeable odor are objectionable. The physician should always make sure as to the character of the preparation used for inunction.

T. E. Walton,<sup>40</sup> after searching for some preventive more practical than isolation and other things usually recommended, found, in "Sajous's Annual" for 1891, de Rosa's report of 66 children, belonging to families in which there was scarlet fever, and to whom was administered a daily dose of salicylic acid (1 1/2 to 4 grains, according to age). Only 3 of the 66 children developed the disease. He concluded that salicylic acid absolutely prevents the development of scarlatina, if administered in sufficient dose, and early enough after the exposure. Even when given late, and in small doses, it renders the disease more mild. Acting on de Rosa's suggestion, salicylic acid has been personally administered during the past two and a half years to 41 children, in homes where there was scarlatina. Only 6 of the children developed the disease. The age of the 41 varied from three months to fifteen years. All except 1 were one year old or older. The dose was 1 to 3 grains four times daily, with sacch. lactis. No attempt was made at isolation. The remedy was continued from three to five weeks: in four homes containing 12 children the dose was administered for three weeks. Of these a babe of 14 months developed the disease very mildly on the eighth day.

Twice daily the scarlatinal patients were anointed with 1-per-cent. carbolized vaselin, and given a warm bath every second day till the end of the third week. Then the houses were disinfected by burning sulphur freely

<sup>40</sup> Pediatrics, May 15, 1900

(about one pound to each room), keeping the house closed for three hours, then opening and airing freely. Desquamation seemed complete in the last cases in three weeks. The oily inunction and warm baths facilitated the process. Isolation is personally believed the best preventive, but, in the cases reported, this was impossible, and the sanitary conditions were poor also. The continuation of the remedy is advised till desquamation is complete; then house-disinfection.

**Treatment.**—F. P. Henry<sup>41</sup> says so soon as the patient is suspected of being infected he should be isolated from contact with everyone except the necessary attendants. The patient should remain in the one room for about six weeks and must be surrounded by a warm, dry atmosphere. Before the patient enters, the carpet and all upholstered furniture should be removed, nothing left but what is absolutely necessary.

During the first stages of the disease the room-temperature of about 70° F. is desirable, but during the stage of desquamation it may be 72° or 74°. These precautions are of little use unless the physician regulates the quantity of bedding over the patients. They should wear a cotton or light-flannel nightgown, and be covered by a sheet, single blanket, and white counterpane. If the temperature is at or near 70° this covering affords ample protection.

The diet should consist of milk during the eruption and largely of milk during convalescence. Milk produces very slight irritation in the kidneys. Water should be given *ad libitum*, and drinks may be given of lemonade, tomato-juice, and fruit syrups. Stimulants should not be given as routine treatment, but may be useful with weak

pulse, cold extremities, and extreme restlessness.

The toilet should not be neglected simply because the patient is in bed. In the ordinary cases he may have a warm bath daily of 90° temperature or more; or, if this is not available, he should be sponged with warm water and a little Castile soap. The mouth and throat should receive special attention. After taking any food the mouth should be carefully cleansed. If it is an infant the mouth may be washed out with a rag soaked in a saturated solution of boric acid. An older patient may gargle with the same solution. If there is formation of a membrane the throat should be sprayed every hour or two with boric acid, carbolic acid, saturated solution of salicylic acid or thymol, or peroxide of hydrogen. This last is a remedy of undoubted efficacy. When the throat symptoms are severe the atmosphere should be charged with steam.

If the temperature remains for some hours above 105° an attempt must be made to reduce it. The cold bath as it is administered in typhoid fever is the safest and most efficacious method of treatment. However, the cold pack may be substituted, or a warm bath to which cold water is gradually added. Considerable benefit is derived by the application of cold to the head—a rubber bag or bladder filled with ice. In all cases of hyperpyrexia there is more or less delirium or agitation. Bromides, valerian, asafoetida, and chloral are all used for this. Stupor is to be treated with alcoholic stimulants and carbonate of ammonia. Strong coffee is useful here, and may be given with brandy.

During the eruption and desquamative stage patient may be given inunc-

<sup>41</sup> N. Y. Med. Times, May, 1900.



tions with vaselin or lard containing 5 to 10 per cent. of carbolic acid or a nicely-prepared cold cream.

A child should not return to school after scarlatina until desquamation is complete. The hair of the child and the skin should be scrubbed with carbolic soap.

A. Seibert<sup>42</sup> has used a 5- to 10-per-cent. ointment of ichthyol in lanolin in scarlatina since 1884. The ointment is applied once or twice daily in such a manner that the whole body is covered and the ichthyol is rubbed into the skin until hardly any ointment remains on the surface. The skin of the patient assumes a brownish hue after the inunction, which is made with the tips of the fingers.

The swelling of the skin is reduced after the first inunction. The pruritus, which is excited by the ichthyol, disappears quickly. The occurrence of ulceration and phlegmonous and erysipelatous infiltrations in the skin is prevented. The temperature is lowered in all uncomplicated cases after a few hours to the extent of from 1° to 3° F. The sleeplessness and restlessness improve.

The inunctions also serve to lessen the liability of the other children in the family to contagion, and the disease was limited to one child in each family where the inunctions were employed.

The intensity and duration of the desquamation were considerably lessened by the inunctions, which were continued throughout this stage. There were never any toxic symptoms from the use of the ointment.

In the streptococcic infection of the pharynx and tonsils which accompanies scarlatina ichthyol has been used in the form of irrigations. The method of employing these irrigations was as follows: In order to secure a thorough mechanical cleansing, as well as a chemical disinfection,  $\frac{1}{4}$  litre of a 5-per-cent. solution of ichthyol was used in an irrigator that was suspended about three feet above the patient. The warm liquid was injected into one nostril and then into the other, and allowed to escape through the mouth. All the patients received in addition the following mixture by mouth and inunctions of 5-per-cent. ichthyol ointment all over the body every six hours:—

R. Acidi carbolici, 10 drops.  
Potassii iodidi, 15 grains.  
Tincturæ iodi,  $\frac{1}{2}$  drachm.  
Aquæ destillatæ, ad 4 ounces.

M. Sig.: A teaspoonful every hour.

The irrigations of the nose and throat were repeated every six hours.

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<sup>42</sup> Jahrbuch f. Kinderh., Mar., 1900.

## Cyclopædia of Current Literature.

### ABDOMINAL SECTION, POST-OPERATIVE TREATMENT OF.

Greater latitude of position after laparotomy than has usually been permitted is recommended. In the treatment of shock, one should give before the close of the operation a high rectal

enema of a pint of hot salt solution and an ounce of whisky, together with proper cardiac stimulation. Hæmorrhage can be immediately arrested by compression or ligation of bleeding vessels; when practicable, the operation should be performed with the patient in

bed. Flatulence, nausea, and vomiting, if due to ether-narcosis, will subside spontaneously. In nausea, hot water in drachm doses frequently repeated is advocated; if vomiting persists, high rectal enemas of water containing 2 or 3 drachms of a saturated solution of sulphate of magnesium should be given at intervals of about two hours until the bowels are opened. If nausea is not present twelve hours after the operation, teaspoonful quantities of hot water or chicken-broth at intervals of an hour are given. The quantity may be increased if it is well borne, and it may be followed by beefsteak, lime-water, and milk. The quantity and quality of the urinary secretion should be watched. Evidence of injury to the urinary tract and diminished or suppressed renal secretion, partial or entire, call for prompt and energetic measures such as saline laxatives, pure water by the mouth, and salt solution by rectal enemas, diaphoresis, and, if the arterial pressure is diminished, digitalis and persistent dry cupping. W. B. Chase (*Med. Record*, June 23, 1900).

The thirst after abdominal section is very much increased if the preparatory purgation has been done with salts. This should be accomplished with compound glycyrrhiza. Patients should also be urged to drink freely of water two or three times before the operation. For the relief of pain phosphite of cod-liver oil and alcohol may be injected into the rectum. A patient does not usually need stimulants after operation. The treatment should be on the same principle as that of the general practitioner: If the patient requires a stimulant, should be given; if not, it should be withheld. Bonfield (*Med. Record*, June 23, 1900).

### ACROPARÆSTHESIA.

**Diagnosis.** Three cases of acroparæsthesia noted. The patients were women, between 40 and 50 years of age, engaged in earning their living by manual work, and otherwise in good health. The abnormal sensation complained of was a dead, tingling feeling in the hands and arms, which occurred either at night, or on using the hands, or persistent, though much worse on manual labor. In all three cases no objective sign of anything abnormal was discovered either when the patients were free from or suffering from the abnormal sensation. No symptom or sign of hysteria was present.

The origin of the disease is probably to be found in the age and sex of the patients, and the affection may be related to those other abnormal actions of the central nervous system which are so apt to occur in women during the years preceding and following the menopause. The diagnosis should be based on the conjunction of these abnormal sensations with an absence or insignificance of signs of vasomotor disturbance.

The affections with which acroparæsthesia is most likely to be confounded are hysteria, peripheral neuritis, erythromelalgia, acrocyanosis, acromegaly, and arterial degeneration. Cases of hysteria simulating acroparæsthesia may be diagnosed by the history or by the associated physical signs.

As a rule, peripheral neuritis can be easily distinguished from acroparæsthesia, though in some cases sensory disturbances may be paroxysmal and resemble those of the latter disease.

Erythromelalgia can be distinguished from acroparæsthesia by the associated marked vasomotor changes, by it affecting the feet and legs almost ex-

clusively, and by its dependence on the position of the limb.

Acrocyanosis may be accompanied by abnormal sensations resembling those of acroparæsthesia; the paroxysms, however, are not dependent on using the hands, but, at least at first, on external cold, and are always accompanied by well-marked signs of vasomotor change.

In acromegaly the abnormal sensations in the arms and hands may closely simulate those of acroparæsthesia.

In some cases paræsthesia of the hands may be dependent on arterial degeneration. The condition, however, may be distinguished from acroparæsthesia proper by the greater age of the patients, by the constancy of the abnormal sensations, by the presence of more or less anæsthesia, and by the existence of thickening of the arterial coats.

Acroparæsthesia is exceedingly persistent and very rebellious to treatment. It may last for years and seriously incapacitate the sufferer from earning a living. Quinine and galvanism have been recommended by Chabot, and ergot is highly praised by Sinkler. As far as personal experience goes, bromides, combined with a small dose of nitroglycerin, were of most service. Under this treatment the first two cases completely recovered in six months. F. H. Edgeworth (Lancet, June 23, 1900).

#### ASTHMA, ADRENAL SUBSTANCE IN THE TREATMENT OF.

Adrenal substance is not a specific for asthma. It is without good influence, perhaps capable of bad influence, on cases that are really spasmodic; that is, due to contraction of the bronchial muscles. But it is of definite use in that perhaps smaller number of cases of asthma in which the paroxysm is but

one other manifestation of a congenital fault of structure or of metabolism, affecting the vasomotor system and thus permitting the cardiovascular balance, and especially the tonicities of the blood-vessels, to be readily overturned by exciting causes that would have but slight, if any, effect on other individuals. In such cases a more or less continuous administration of adrenal substance, in sufficient quantity to maintain the vascular tone, will act as a preventive, enabling the reactive forces of the individual to combat more successfully the toxins of internal and external origin; the emotional, meteorological, thermal, and climatic influences; and other sources of disturbance that ordinarily provoke the paroxysm.

As to its dosage, there is great difference in cases and in individuals. Beginning with small doses frequently repeated,—*e.g.*, 1 grain every hour or every two hours,—or with a moderate dose,—say, 5 grains,—once or twice daily, one learns the tolerance of the individual, the tractability or intractability of the symptoms, and regulates accordingly. As few as 3 and as many as 90 grains of the desiccated gland-substance have been personally given in the twenty-four hours. Five or 10 grains every second or third hour during waking hours is a fair dose. In some cases, however, the unnecessary animal substances retained in the preparation give rise to diarrhœa with offensive discharges. S. Solis-Cohen (Jour. Amer. Med. Assoc., May 12, 1900).

#### BLADDER, WASHING THE.

Not only should the bladder be washed while at rest, but in varying degrees of capacity of contents from a state of very small contents to that of



full capacity and distension. The gross impurities are best removed when the bladder has only a small amount of contents; but for its thorough cleansing the bladder should be washed while filled sufficiently to smooth out its folds and expose all pouches and depressions to the action of the irrigant.

Overdistension, unless for the special purpose of increasing the absolute capacity of the bladder, is to be avoided. Straining the bladder by overpressure upon its wall is apt to excite spasm and limit the washing procedure, and is consequently to be avoided. The reaction of the bladder to internal pressure is a characteristic special to the individual, and is best determined by a gauge connected with the bladder. This consideration also has its application to a dilated and insensitive bladder.

The liquid contents of the bladder should be agitated during the procedure of washing. Apart from the mechanical washing of the bladder, the disinfection of its wall is best accomplished while it is held at comparative rest and the retained liquid is made to circulate within it.

Care is to be taken not to have the end of the catheter project far into the cavity of the bladder, for the collapsing organ, striking against the catheter, may be irritated and thrown into spasm. W. E. Fluhrer (Med. Record, June 23, 1900).

### CATHETER, RETAINED.

Retained catheter is often the best method of dealing with cases of retention of urine, particularly if the urethra is insensitive. A large soft-rubber catheter is retained with remarkable tolerance. In one case of traumatic fracture of thirteen years' standing with

urinary fistula the catheter was retained without disturbance; the fistula healed permanently in 12 days; in another case the catheter was retained 17 days; in a third case of perineal fistula it was retained 65 days with occasional removal and cleansing. The dangers of cystitis from retained catheter have been much overestimated. J. R. Eastman (Boston Med. and Surg. Jour., June 28, 1900)

### CERUMEN IN EXTERNAL AUDITORY CANAL.

**Treatment.**—The consensus of opinion among authorities is that gentle and careful syringing with warm water is the best method for removing wax from the canal. Peroxide of hydrogen, more or less diluted, and neutralized with sodium bicarbonate, or pure, is used by many physicians. Personally, pure sterilized water is preferable.

Buck prefers the small curette, forceps, and probe, in the hands of the otologist thoroughly conversant with the auditory apparatus, and cognizant of the danger of wounding or injuring the delicate structure of the ear with steel instruments. This method of removal through the speculum and under ocular inspection is safe in skillful hands, though damage may be done by instruments in the most practiced hands by involuntary starts or movements of the patient's head.

For syringing the ear, the first requisite is absolute cleanliness. A glass and metal syringe, if possible, which can be thoroughly disinfected and which holds two or three ounces, having three rings, one for the thumb and one each for the second and third fingers, should be used. The water should be of a temperature easily borne by the back of the hands,—

say, about 80° F. About a pint of water unminged with anything else should be used. A sterilizable syringe is to be preferred. The entire syringe is to be boiled for from five to ten minutes before use.

Any undue force must not be used in expelling the water from the syringe into the ear.

After removal of the occlusion, continued syringing should be done with caution, as the danger of causing labyrinthine dizziness is increased. It is frequently the case in old, dry masses that four, five, or even six syringefuls of water make scarcely any impression; in such a case the hard mass must be softened, in order to be more readily removable; for this purpose a saturated solution of bicarbonate of sodium or a 2-per-cent. solution of carbonate of potassium in equal parts of glycerin and water, may be dropped into the ear three or four times a day. The drops should be warm. From 5 to 10 drops should be instilled into the ear, and these should be allowed to remain *in situ* for about three minutes, when they may be allowed to flow out. Two days' treatment of this character will so soften the plug that its removal by gentle syringing with warm water is a matter of the greatest ease, the first syringeful frequently dislodging the whole plug, especially if it be entirely ceruminous. Epithelial plugs, even after softening, need care, time, and patience for their removal. They frequently require several sittings for their thorough removal and the complete cleansing of the external canal of all scales and *detritus*. The rule is to commence the ear syringing by gently forcing the piston home so as to send the jet of water into the ear under the minimum of pressure. The next may be a

trifle more forcible, gradually increasing the force, but never sending a powerful stream of water against the delicate mechanism of the auditory apparatus, with its intimate relationships to the grain. These cases should be, if possible, attended to at once when they present themselves for treatment. A patient should not be sent home with instructions to syringe the ear himself or use certain drops. If the syringing seems insufficient after a few syringefuls have been injected, it will be wise to follow the advice of Blake and remove portions of the periphery of the plug by means of a small curette; the water can then pass through the opening thus created and force the plug outward.

Some authorities are opposed to syringing altogether, and advocate the use of the curette and probe. In the case of epithelial plugs, it is well to use a bichloride-of-mercury solution, 1 to 5000, for syringing. The rules of asepsis should be observed in every case as thoroughly as possible. The use of olive-oil in the ear should be absolutely discountenanced, as it favors the growth of the aspergillus fungus in the accumulation.

After the contents of the canal have been removed, it is well to inflate the tympanum with a Politzer bag. A small, loose wad of cotton should be placed in the canal.

The same patient frequently returns after several months for the purpose of having his ears syringed. To prevent this, it is advisable to instruct the patient to wash out his ears thoroughly with a mild alkaline solution (1 drachm of aqua ammoniæ to the quart of warm water, and Castile soap) once every week. Samuel Kohn (Med. Record, June 23, 1900).

**CHANCRES, PRIMARY SYPHILITIC.**

**Treatment.**—In the treatment of primary sores, as a rule, whether the sore be hard or soft, one should avoid ointments. Drying powders are far better. Under simple antiseptic treatment soft sores will generally heal rapidly, and undoubtedly for the soft sores and for the doubtful sores iodoform-and-boric powder—*e.g.*, in the proportion of 1 to 4—can hardly be improved upon. Calomel powder, either diluted or not, and the old-fashioned black wash are excellent applications for venereal sores. For soft chancres, personal belief is in cauterization with pure carbolic acid, with which there is no need to apply cocaine, as there is not much pain and it causes the soft sores to heal rapidly. The treatment is also valuable because in many cases it prevents the occurrence of suppurating bubo. If, and as soon as, the diagnosis is certain that the case is one of primary syphilis, mercury should be given. There is nothing which will cause the induration to melt away so rapidly as the internal use of mercury. Several instances noted where excision has proved quite useless, although it has been done within a few days of contagion. Jonathan Hutchinson (*Lancet*, June 9, 1900).

**CONTAGIOUS DISEASES.**

**Etiology.**—People should be educated through health officials and practitioners of medicine as to the chief source of danger in contracting contagious diseases.

**Prevention.** They should be taught to know that the dust from dried handkerchiefs, when the secretion has dried, often contains disease-germs, and should be looked upon suspiciously. They should be taught that handker-

chiefs should, under no circumstances, be used after any secretion from the nose has been permitted to dry upon them, and that after being used they should be placed in a paper bag, the top twisted shut, and there remain until they can be boiled in water.

**SECOND.**—Contagion is liable to be spread by dust from floors or articles upon which infected sputum or saliva has been ejected.

**THIRD.**—Contagion is liable to be spread by contact with the hands of persons who cough or spit into handkerchiefs, and then handle the infected material.

**FOURTH.**—Clothing may often contain the germs of a communicable disease.

**FIFTH.**—Books, pencils, chewing-gum, drinking-cups, etc., which are used in common, are often sources for the spread of contagious diseases.

**SIXTH.**—While typhoid fever is ordinarily caused through the medium of drinking-water which has been contaminated with sewage or with leakings from privies, it is not improbable that the disease is sometimes spread by means of dust containing the germs of the disease. M. K. Allen (*Pediatrics*, June 15, 1900).

**CUSTARD, SUBSTITUTES FOR.**

Next to the craze for consolidating food is that of devising substitutes which are vaunted as equal to, if not better than, the original article. In this case distinct harm may be done. For instance, the public meet everywhere with announcements that they may dispense with eggs in the preparation of a custard. The custard without eggs is usually a powder consisting of little else than starch colored with tur-



meric to give it the color of the yolk of egg. A custard prepared with custard powder is thick with starch, whereas a true custard is thick with the albumin of egg. It is true that it is usually suggested that the powder should be boiled with milk. Such a powder is by no means a substitute for the true custard, which is composed of eggs and milk. Several powders have been personally examined, and the albumin found in them ranged from 3 per cent. to *nil*, while in all there was absolutely no fat. The white of dried eggs contains about 80 per cent. albumin and 14 per cent. fat, and the yolk about 30 per cent. albumin and 60 per cent. fat. Though it is of little importance when such a substitute is consumed by persons in health, yet, in the case of an invalid, the custard powder can in no sense be regarded as suitable. Indeed, the custard powder would not only be a starvation diet to the invalid, but positively a source of injury in some cases. A custard containing little else than starch would be injurious to patients suffering from diabetes; but in this disease eggs and milk, as in a true custard, are a permissible and valuable diet. The true custard is a very nourishing and, as a rule, a very acceptable preparation to invalids, and it should be pointed out that a custard powder without eggs cannot possibly replace the fresh egg. A custard powder would be the slenderest straw for an invalid to rely on, and some declaration should be made that custard powders without eggs are not suitable for invalid purposes. A true custard is very commonly an important portion of an invalid's diet, and it is very desirable that no false impression should be made as to the real nutrient value of substitutes for custard. Editorial (Lancet, May 5, 1900).

## DAY-TERRORS IN CHILDREN.

The symptoms of waking-terrors, or day-terror, are fairly constant. A nervous, excitable child, in the midst of his play or while sitting quietly in a room with other people, suddenly, without apparent cause, begins to scream and looks terrified. Sometimes he says that some imaginary person is coming after him, or that he hears something which frightens him, or he has some other form of hallucination or delusion. He rushes screaming to his mother or to some other person for protection, and no coaxing or attempts to soothe seem to have any effect in pacifying him. Dr. J. F. Goodhart states that in these attacks the child sometimes shows a definite dread of a nurse or of the mother, of whom in times of health the child is even inordinately fond, and he also says he has known a child to be quite maniacal in the attacks. The duration of the attacks varied from a few seconds up to about a quarter of an hour and their frequency varied from one in a fortnight up to twenty in a day. It is important to notice that, although the day attacks may be associated with night-terrors, they may also occur without any nocturnal symptoms.

The etiology of day-terrors is as difficult to determine as that of night-terrors. One thing seems clear, that the children who suffer from day-terrors are of excitable and nervous temperament. In seeing a large number of children one is struck with the sensitive, nervous temperament of those who come from rheumatic families. No small number of such children show one or other of the minor functional neuroses; it may be some habit-spasm or nocturnal enuresis, or it may be evening headaches, or "nervous diarrhoea," or it may be simply undue excitability. The family history

of rheumatism, therefore, is probably more than a mere accident; and it is interesting to note that in night-terrors Dr. Goodhart found a family history of rheumatism in 19 out of 37 cases, and Dr. Graham Little found valvular murmurs in the heart in 17 out of 30 cases.

The immediate prognosis in day-terrors would seem to be good. They are easily diminished by treatment, and probably the cure is permanent so long as the exciting cause, whatever it may be, is avoided. George F. Still (*Lancet*, Feb. 3, 1900).

### DISINFECTION OF THE HANDS.

A large series of careful experiments have been personally made on the disinfection of the hands by different methods. The best method of bacteriological examination is to rub a sterilized piece of hard wood on the hands, previously moistened with sterilized water. Washing and brushing the hand, even for hours, with ordinary soap and water does not diminish the number of microbes upon the skin to any considerable degree, nor does washing with "Seifele's Marmorseife." There is no method which renders the hands absolutely free from microbes, but the method of Mikulicz with soap spirit gives relatively the best results, diminishing the number of microbes considerably. The same is true of Allfield's method of disinfecting with hot water and alcohol. *Surgery (Brit. Med. Jour., May 5, 1900).*

### ECLAMPSIA. DANGER-SIGNAL FOR.

It is the amount of urea that is a warning, and not the amount of albumin, that constitutes the danger-signal for the development of eclampsia. In every suspicious case—that is, in every pregnant woman in whom there is some

headache and restlessness for which no good reason can be found, and especially where œdema or eye-symptoms develop—a careful estimation of the urea that is being excreted in the urine should be made. This is the imperative duty of the obstetrician. For the ordinary healthy woman without these symptoms, this careful investigation of the urine is not needed. But the slightest suspicion should be sufficient to ask for a sample of the urine, and not be satisfied merely with finding out whether or not it contains albumin. The presence or absence of albumin may, under circumstances, be a very fallacious criterion. E. A. Tucker (*Med. News*, June 30, 1900).

### EXOPHTHALMIC GOITRE.

**Treatment.**—If the sympathetic nerve is, as is thought to have been amply proved, the immediate cause of exophthalmic goitre, the treatment must be directed to that nerve. Therefore, the therapeutic indications may be formulated in the following manner:—

1. If the syndrome of the disease is the result of a mechanical pressure on the sympathetic nerve (tumor of thyroid gland, etc.), one should remove the pressure, and, if the symptoms persist, operate upon the sympathetic.

2. If the syndrome of the disease is the result of reflex influence on the medulla and through the last on the sympathetic nerve from some remote affection,—as fibroid uterine tumors, nasal polyps, etc.,—the last should be removed, and, if the symptoms persist, the sympathetic nerve should be operated upon.

3. If the syndrome of the disease occurs during the course of any spinal or other organic nervous disease, one should abstain from operation.

4. If there is no apparent cause, the sympathetic nerve is to be operated upon.

At any rate, one should never operate upon the hypertrophied thyroid gland. Medical treatment can be used, if the patient refuses an operation, but no permanent cure or entire removal of the symptoms should be expected. Alfred Gordon (Phila. Med. Jour., June 23, 1900).

### GASOLINE AS A SURGICAL DETERGENT.

Gasoline is a valuable detergent, and may yet be found to be antiseptic. It is very inflammable. It should be used carefully about an exposed light. If it gets into cavities, such as the ears or eyes, it is irritating just as chloroform or ether is. If applied to a surface where it can rapidly evaporate it gives a cooling, pleasant sensation.

In subsequent dressing of wounds, if the dressings are adherent about line of incision or suture, a few drops of gasoline squeezed on the adherent dressing will enable it to be readily detached.

If one wants to remove sutures from wound and they are masked by iodoform powder and exudations from wound, gasoline on a wipe applied gently will clear the field. Gasoline dissolves iodoform and the exudation from wounds and then immediately evaporates, leaving a clean and dry surface. The sutures can readily be found and removed. B. L. Riordan (Can. Pract. and Review, June, 1900).

### INFLUENZA.

**Complications.**—This year nervous symptoms have been the special complication of influenza, and they have sometimes seemed to demand the pres-

ence and activity of other causative agents in addition to Pfeiffer's influenza bacillus, although they have always subsided as soon as the more pronounced grip symptoms were under control.

In children there has been a special liability during the year to the development of otitis media, which has often required a resort to the mastoid operation. This complication has been noted before, but not with such frequency as during the present year. Another feature of the past winter's influenza in children has been its proneness to cause very high temperatures. It has not been an uncommon occurrence for the temperature to reach 105° in cases of simple grip. These febrile movements have at times been very irregular or intermittent, with almost daily drops to subnormal temperature. In adults as well as in children there has been a marked tendency to the development of cutaneous eruptions. Cutaneous lesions have been noted very generally also in England. These skin manifestations have usually been of the character of nervous cutaneous lesions, the multi-form eruptions which are caused by the presence of toxins in the circulation, whose action is mainly on the trophic fibres in peripheral nerve-endings. Mental symptoms and sequelæ have also been a distinct feature of the disease. Many patients have labored under a depression during the course of the disease that seemed utterly disproportionate to the severity of their influenzal infection. In some of these cases neurasthenia and in others melancholia have remained during a prolonged convalescence, the whole clinical picture being that of a severe, protracted, and exhausting disease rather than what seemed at first a comparatively mild affection. Editorial (Med. News, June 2, 1900).



**INFLUENZA IN CHILDREN.**

**Treatment.**—Sodium benzoate forms personal remedy not alone in influenza, but in all its complications as well. Occasionally it is found necessary to administer small doses of acetanilid for reduction of high temperature and relief of pain, and, when the latter is severe, also a little codeine. After having given acetanilid to thousands of patients in diverse diseases, no untoward results following its use have been seen, provided proper caution is taken in prescribing a moderate dose. Where any depression is to be feared a small dose of caffeine is a safe addition. Whenever "rheumatoid" pains predominate, the just-mentioned drugs are combined with salol; which acts at the same time as an intestinal antiseptic. When called upon to treat a case of grip of moderate severity, the following is ordered:—

R Sodium benzoate,  
Salol,  
Acetanilid, of each,  $1\frac{1}{2}$  grains.  
Caffeine,  $\frac{1}{4}$  grain.

M. Make one powder.

Sig.: One powder every three hours to a child six years old, or, if the pain is severe and the child is kept awake,  $\frac{1}{12}$  grain of codeine sulphate may be added to each powder.

Where children refuse to take powders, the following mixture may be prescribed, again adding codeine if necessary:—

R Sodii benzoat.,  
Antipyrin., of each,  $\frac{1}{2}$  drachm.  
Liquor ammon. anisat.,  
Syr. scillæ comp., of each, 2 drachms.  
Syr. althææ,  $1\frac{1}{2}$  ounces.  
Aquæ anisi, q. s. ad 2 ounces.

M. Sig.: One drachm every three hours to a child six years old.

In connection with sodium benzoate by the mouth, compound tincture of benzoin should be inhaled, as it acts as an admirable respiratory antiseptic, expectorant, and antispasmodic. One tablespoonful of the tincture is added to a quart of boiling water in a tea-kettle or tin basin and maintained in a state of constant simmering over a gas-lamp or alcohol-lamp during the entire sickness. Occasionally a hot flaxseed poultice and expectorants are indicated. Where digestive disturbance is predominating, small doses of calomel and ingluvin form a useful combination. Nervous phenomena, such as extreme irritability and convulsions, usually yield promptly to the administration of sodium bromide and chloral. By far the more important is the remedying of the characteristic prostrations, and for this purpose small doses of strychnine sulphate and the diverse ammonia preparations are most useful. If the cough is very protracted, minute doses of creasote may be ordered with glycerin, alcohol, and a pleasant adjuvant. Special attention must be paid to the prevention of complications, be they grave or mild. Simple acute otitis, rhinitis, and adenitis must be arrested at their inception. H. B. Sheffield (N. Y. Med. Jour., June 30, 1900).

**JOINTS AND BONES, TUBERCULOUS DISEASES OF.**

In the treatment of tuberculous and purulent diseases of joints and bones personal practice has been to lay open abscess-cavities, divide the capsule about two-thirds of its extent, and pull out the head of the bone. The joint is then irrigated freely with bichloride 1 to 1000, after which pure carbolic acid is poured in and allowed to remain just one minute. This application is fol-

lowed by irrigation, first, with strong alcohol, and then with a 2-per-cent. solution of carbolic acid. The largest possible glass drain that the joint will admit is inserted, and the patient is put into bed with a weight and extension apparatus. In the last eighteen months 70 cases have been personally operated on, and 20 incisions performed, whereas ordinarily 50 would have been done. In 15 cases the head of the bone had been found separated from the neck, and lying as a sequestrum in the joint. In 40 cases the capsule had ruptured anteriorly into the muscles. On an average, all of the cases requiring excision or extensive bone operations had been discharged from hospital at the end of three weeks. A. M. Phelps (Med. Record, June 16, 1900).

### LABOR, METHODS OF INDUCING.

The introduction of a sterile bougie is not considered an easy and effective way of inducing labor. Days and weeks even are needed sometimes before pains are initiated by this method. Besides, it involves imminent risk of rupture of the membranes and the loss of the waters at the very beginning. Barnes's bags are also unreliable. The best method in personal experience is a preliminary tamponade of the cervical canal until the lower segment of the uterus becomes soft; then manual dilatation, with extraction accompanied by version, if necessary. This method causes no annoying delays for the patient or the physician and is less liable to cause complications, infective or otherwise, than any other method advised. E. H. Grandin (Med. News, June 30, 1900).

### LIVER, PTOSIS OF THE.

In cases of hepatoptosis of marked degree the examination of the tumor is at-

tended with no difficulty. The patient should be examined while standing erect as well as when recumbent. Digital exploration should not be considered to be complete until it has been applied when the patient is lying upon the left side and also when in the crawling position, on the hands and knees.

In slight degrees of ptosis of the liver a satisfactory examination is not quite so easy. In all grades of ptosis of the liver a precise examination of the inferior border of the gland is of the utmost importance. The method of palpation described by Glénard under the title of "*Le Procédé du Pouce*" is conducted in the following manner: The inferior part of the gland—the presenting part—is examined solely by the pulp of the left thumb. The patient lies upon the back with the knees extended and the shoulders a little raised. The surgeon sits on the right side of the couch facing the patient.

**STEP 1.**—He supports the right loin with his left hand. The four fingers of this hand are applied to the lumbar region, so that the middle finger is just below the posterior costal border and has its tip about the costo-vertebral angle. The loin is pushed forward. The left thumb is free and in abduction.

**STEP 2.**—The abdomen in the hypogastric and right iliac regions is depressed by the right hand laid flat upon the surface. The object is to push up under the liver the subjacent mass of intestines. The fingers are placed together and their tips are directed obliquely outward and downward toward the right groin, which they just reach. The palm of the hand is applied about the median line a little below the navel. The hand is then made to describe a circular movement so that the fingers pass inward and outward, the motion being around the thumb and

hypothenar eminences. Very firm pressure is exercised by the hand so placed.

STEP 3.—The pulp of the left thumb is made to depress the anterior abdominal wall in the flank below the presumed site of the lower edge of the liver. The pulp of the thumb looks backward, and is at a variable distance from the tips of the right fingers, but a little below the upper part of the furrow of depression caused by the right hand. The left thumb is pressed deep below the liver edge. It is to be remembered that this edge runs obliquely, and in some cases—*e.g.*, the floating lobe—may be nearly parallel with the median line. The hands are kept in place and the patient is told to take a deep inspiration. During this inspiration the left thumb is made to slide from below upward and outward and from behind forward. The edge of the liver should now slip past the thumb. The position of the left thumb, and, if necessary, of the right hand, must be shifted until the hepatic margin is discovered. It can be felt even when it lies above the costal margin. During repeated acts of inspiration the lower border of the organ can be well examined. The left thumb is so deeply placed that the liver margin when it presents itself will come in front of that digit. F. Treves (*Lancet*, May 12, 1900).

### MIDDLE-EAR SUPPURATION, CHRONIC.

**Treatment.**—Antiseptics can be applied to the meatus and intact membrane in the same way as in other parts of the body, with similar results. An initial thorough purification of the middle ear and meatus, followed by careful packing with double cyanide gauze, is an excellent method of treating certain cases of chronic middle-ear suppuration. Urban

Pritchard (*Otol. Soc. of United Kingdom; Lancet*, Feb. 24, 1900).

A suppuration of the middle ear not kept up by necrosis, polyps, or a foreign body is usually chronic, because (1) the tissues are lowered in vitality, (2) the septic material is active, and (3) drainage is poor.

In cases in which the discharge is profuse, the ear should be syringed thoroughly two or three times a day with a very warm 2-per-cent. carbolic-acid solution, or some other antiseptic solution. Every day, or every other day, after thoroughly cleansing in this way, the ear should be mopped dry with absorbent cotton, and an antiseptic dusting-powder should be blown in by the physician. The freer the discharge, the more care must be used not to insufflate too much powder. When the discharge is slight and not very offensive, no treatment at home will be necessary other than a general tonic, which may be beneficial. Daily, or every other day, however, the physician should dry out the ear with absorbent cotton under careful illumination, and dust in the powder, being careful not to pack the canal.

The solutions are personally omitted as soon as the discharge is slight, and an exclusively dry treatment is substituted.

An excellent iodine-containing powder is iodomuth, a bismuth powder containing 25 per cent. of iodine. It is odorless, impalpable, and reddish-brown in color, and does not cake in the ear. C. L. Felt (*N. Y. Med. Jour.*, June 23, 1900).

### NITRO-PROPIOL TEST FOR SUGAR IN URINE.

In experiments with the nitro-propiol test for sugar in urine it has been found



that there can be no doubt that the reaction is of a most striking and convincing nature. As Dr. Saundby has pointed out, Fehling's solution is reduced by a number of other bodies besides sugar, and it would hardly be safe to pronounce a patient to suffer from glycosuria upon this test alone without resorting to control tests.

There is only one body which is in the least liable to interfere with the nitro-propiol reaction (*viz.*, aldehyde), and this body is not a constituent of the urine; nitro-propiol therefore seems to be particularly appropriate for the quantitative determination of sugar in urine. Nitro-propiol will indicate such small percentage of sugar which entirely escapes observation in the fermentation test and which can only with difficulty be proved by the phenylhydrazin or the osazone test, respectively.

The importance which must be placed upon the minutest waste of sugar in the body, if it occur regularly and not temporarily, should render nitro-propiol a most valuable reagent.

Diabetic urine or even a very dilute solution of glucose produces the reaction within thirty or forty seconds after the tablet has been dissolved and after the test liquid has reached the boiling-point. Continued boiling for from three to five minutes is, therefore, not a compulsory, but only a precautionary, measure for proving the absence of sugar. The propiol test can just as well be carried out in a test-tube as Fehling's test, because the reaction is almost an instantaneous one, in case of diabetic urine, while in cases of non-diabetic urine gentle boiling for a few minutes is quite sufficient to prove the absence of sugar. Bryce Gordon (*Lancet*, May 5, 1900).

## PHIMOSIS, TREATMENT OF, BY DILATATION.

In phimosis occurring in infants and young boys milder measures which offer a prospect of relief should be tried before resorting to any cutting operation.

Difficulty in the retraction of the prepuce should suggest the injection of the sac with sterilized water. Uniform distension will indicate the absence of adhesions or them having existed to such a slight degree as to have yielded to the injection.

Dilatation may be accomplished by an instrument made for the purpose—the uterine dilator, urethral speculum, or any similar appliance having blades which separate by parallel action. If nothing better than ordinary dressing forceps be available, greater care should be observed to avoid injury to the tissues. Any instrument used should be provided with a rubber cover for the contact portion of the blades, such as a section of light elastic rubber tubing.

Repeated operations may be required, with intervals of a day or more, according to the resistance offered and the irritation produced. During the intervals a soothing antiseptic solution should be applied by a dropper after each act of urination.

Ample dilatation having been attained, any adhesions which may be found should be overcome by the patient and gentle use of the sterilized fingers, assisted, if necessary, by a probe. Oozing should be checked, the parts thoroughly cleansed and returned to their normal relations.

A mild anodyne and antiseptic solution should be injected into the sac and repeated after each urination, until the prepuce can be retracted without inconvenience and all urination shall

have subsided from the dilated and separated tissues.

Pain can usually be controlled by the frequent or constant application of a solution of cocaine to the parts during the operation. F. le Moyné (Penna. Med. Jour., June, 1900).

### SPONGES, STERILIZATION OF, BY BOILING.

By using the following method, sponges can be repeatedly sterilized by boiling:—

1. The sponges are freed from calcareous matter by immersion for twenty-four hours in 8-per-cent. muriatic-acid solution, and are then thoroughly washed in water.

2. They are then boiled for 15 minutes or longer in the following solution: Potassium hydrate, 1 part; tannic acid, 3 parts; water, 100 parts.

3. They are washed in water, carbolic acid, or sublimate solution until all of the potassium-hydrate-tannic-acid mixture (which is of a dark-brown color) is removed.

4. The sponges are preserved in a per-cent. carbolic acid solution.

Sponges that have been used can be re-sterilized by washing them in water, and then boiling them once more in the solution, etc. The solution can be used any number of times, as it does not deteriorate by boiling or by age.

Sponges prepared in this way are absolutely sterile, and they will be found to have retained all their physical qualities—*i. e.*, softness, elasticity, power of absorption, etc. C. A. Elliott (Med. Record, June 30, 1900).

### SPRAINS.

**Treatment.**—The objects to be attained in the treatment of sprains, wrenches, and bruises are the restoration

to the normal state by the rapid removal of effused products, the prevention of adhesions, and the avoidance of muscle-waste.

By a sprain is meant an injury to a joint, a muscle, or other soft parts by a wrench, a bend, or a twist. There is always some laceration of the tissues, but there is no open wound. In the case of a joint the injury always involves some tearing of the fibres of the capsule, synovial apparatus, or cartilage. Generally, if the sprain is of any severity, there is effusion into the joint; if the effusion follows immediately upon the injury it is blood, if it follows a day or two subsequently it is due to synovitis. The occurrence of this laceration in cases of sprain—which means a subcutaneous wound—led to the faulty practice of former times, which is even now far too prevalent, of placing parts so injured for a long period in splints. This is the best possible method for facilitating the formation of adhesions and the perpetuation of muscle-waste, the main object of this mistaken treatment being to allow of the rapid healing of the wounded tissues—a point of comparatively small importance.

In order to make clear the plan of treatment personally used, the case of a man who has sprained his knee may be taken. At the time of his coming under observation—say, a few hours after the injury—the joint is painful, swelled from effusion (probably for the most part blood), and any attempt at movement of the joint is resisted. The first indication is the removal of the effusion. With this object the patient is, if possible, sent to bed and the limb is placed upon a high back-splint—a ham-splint being the most convenient—applied so that free access is left to the joint. Gentle smooth massage over the

swelled joint is commenced at once. (In very severe cases this is sometimes resented at first by the patient.) In the intervals of the rubbing fomentations of lead and opium may be laid upon the joint; the opium soothes somewhat and the lead hardens the skin a little, which is useful in the subsequent management. From the first, gentle passive movement of the patella is used. As soon as the effusion has distinctly commenced to subside, as is shown by the decrease in the tension of the joint, gentle passive movement (flexion and extension) is commenced, and if upon the commencement of the passive movement no increase of effusion occurs, the splint is put aside altogether. When the patient comes under treatment immediately after the injury the splint can generally be dispensed with on the third day. With the discarding of the splint gentle massage of the thigh and leg is added to the rubbing of the joint itself, the passive movement and the massage becoming more and more thorough as the effusion subsides. A compress of the kind mentioned may be used in the intervals if it is comfortable to the patient. Treated in this simple way there are few cases of severe sprain of the knee in which the patient may not be getting about comfortably in a fortnight, at the end of which time another fortnight of methodical exercises, either in a gymnasium or by means of an exerciser at home, will generally complete the cure. The treatment of the milder forms is modified to the necessities of the case, the great points to be borne in mind being the necessity for avoidance of the use of splints after the effusion has commenced to subside, the immediate use of massage to the joint, and early passive movements. In all cases the early movements should be

passive—the habit of sending the milder forms of sprains at once to the gymnasium is to be avoided. In no case of sprain should a cure be considered to have been obtained if any sign of wasting of muscle beyond that which comes from mere disuse remains. The longer the time which intervenes between the receipt of the injury and the commencement of the rational treatment, the greater is the difficulty in rectifying the muscle-waste with its necessarily concurrent weakness, and in cases in which the parts have been long confined in splints a cure in the true sense is sometimes impossible.

The following points in the carrying out of passive movement in cases of sprain are of some moment: The first movements used should be those of the simplest kind; for example, flexion and extension in the hip or knee, antero-posterior movement in the shoulder; abduction and adduction should then follow, and, finally, rotation and circumduction, in joints permitting of that movement. This sequence, however, is always interrupted, for the following reason, which is of paramount importance—the last movement to be practiced should be that which, so far as can be ascertained, was concerned in the production of the injury.

In sprains complicated by external wound, the plan advocated cannot immediately be adopted in its entirety, nor can massage be comfortably practiced immediately; but in such circumstances massage of neighboring muscles and passive movement should always be practiced, the peculiarities of each case dictating the modifications which are necessary in the application of the treatment. W. H. Bennett (*Lancet*, June 9, 1900).



### THYROID GLAND, SUDDEN ENLARGEMENT OF.

Sudden enlargements of the normal thyroid gland may occur in consequence of nervous excitements of various sorts; as a result of intoxications and various infections; at the onset, or in the course of exophthalmic goitre; and sometimes in cases of ordinary goitre or malignant disease. When the pre-existing disease of the thyroid gland is slight, the sudden enlargement may give the case the appearance of an entirely acute disease, the underlying chronic condition having been overlooked. Alfred Stengel (Univ. Med. Mag., June, 1900).

### TUBERCULOSIS OF THE KNEE-JOINT.

**Treatment.**—The treatment of tuberculosis should be both constitutional and local. The former is too generally neglected; it should consist in careful attention to diet, the use of creosote and general tonics, out-of-door life, and careful attention to the general health. Rest is indicated if the exercise gives no benefit. In the local treatment the joint should be protected from every slight jar. This is best accomplished by the use of the Thomas knee-splint, with a high-soled shoe for the opposite side. Plaster of Paris or silicate of soda may be sometimes used. In any measures to overcome deformity, force should be avoided. Excision in children should not be performed if any other treatment can be substituted, on account of the interference with the normal growth of the limb; in adults excision should be performed in the majority of cases. Complicating abscesses should be evacuated and sinuses disinfected and treated by stimulative injections. The limb should be given complete protection for at least two

years. Wisner Townsend (Boston Med. and Surg. Jour., June 28, 1900).

### TYPHOID FEVER.

**Complications.**—A study of twenty-four cases of typhoid fever with symptoms of peritoneal infection gives the following conclusions:—

1. In many very sick typhoids perforation or peritoneal infection cannot be diagnosed until the results are already wide-spread and of fatal extent. The chances of a fatal issue from an abdominal operation in such cases are overwhelming.

2. In mild typhoids of fair general condition an abdominal operation is readily borne, provided no peritoneal infection is present.

3. A small number of mild typhoids may have sudden perforation with free extravasation. In these the symptoms are fulminant, but localized to a great extent, and in these

4. Operation must be done at once, for general infection may become past relief in from one to five hours, and walling off of the perforation by protecting adhesions is so rare as not to be counted upon.

5. In the majority of mild cases beginning infection (whether from perforation or not) is marked by comparatively slight symptoms—local pain, tenderness, spasm, and leucocytosis. The severe following symptoms mean general peritonitis.

6. These warning symptoms demand serious consideration and study, but in many cases are either not rightly understood or not acted upon.

7. Complaint of abdominal pain in a case of typhoid should always lead to a suspicion of beginning peritoneal infection.

8. Frequent leucocyte counts are

needed in every case of typhoid. In the presence of abdominal pain an hourly count is necessary.

9. Pain associated with local tenderness and muscular spasm and a rising white-blood count points in most cases to an operation; in all cases to a surgical consultation.

10. In not a few of this series of cases operation was imperative a varying number of hours before it was done.

If it can be appreciated that the severe symptoms more often mean general peritonitis, it must be understood that the milder and earlier symptoms are the important ones. G. B. Shattuck, J. Collins Warren, Farrar Cobb (Boston Med. and Surg. Jour., June 28, 1900).

**Diet.**—To support the strength of the patient adequately without overloading the stomach or fatiguing the intestine demands careful judgment. For the first two weeks personal reliance is placed entirely on dissolved beef made after Weir Mitchell's formula, as follows:—

R. Ac. hydrochlor. (c. p.), 1 drachm.  
Aq. destillat., 1 ounce.

M. Sig.: One teaspoonful to a pint of water for making beef-tea.

Into one pint of boiled water is put a good pinch of salt, and a teaspoonful of the above prescription in a one-quart glass fruit-jar, and well shaken. Then one pound of finely-chopped beef is added, and it is again shaken. The jar should be closed air-tight and set in a cool place, like the cellar-floor, but not on ice, for twelve hours. Then the jar is put into water and kept warm, about 110° F. to 120° F. for four or five hours. It must not get too hot. The contents of the jar should be strained through a cloth, and all the liquid squeezed out; the residue will be about the size of a hen's egg and nearly white. This es-

sence may be seasoned with pepper and salt and given warm in 1-ounce doses every hour for the first week, and in 2- to 3-ounce doses every hour or two hours during the second week. If the essence is properly made, the residue will be found to consist almost entirely of white fibrous matter, the red muscular fibres having dissolved out.

During the third week 1 pint of milk may be given every twenty-four hours, but it should be given in divided doses, and largely diluted with sterile water, and with the addition of as much salt as will be palatable. Also in the third week the white of 1 egg in water, and 1 entire egg beaten with the juice of 1 lemon, may be given each twenty-four hours. In making "egg-lemon" the juice of 1 lemon should first be rubbed with a little sugar, the well-beaten yolk then stirred in, and last the white, beaten to a froth, spread over the surface. This makes a delicious and beneficial food for the third and fourth weeks. Whether or not the diet should be changed during the fourth week depends largely on the condition of the patient, but, even in the later stages of typhoid fever, it is much safer to give too little food than too much. D. E. English (Med. Record, June 30, 1900).

**Treatment.**—In typhoid fever the importance of careful feeding and cool baths in the prevention of complications cannot be overestimated. From 2 to 3 quarts of water should be administered daily. This is best given between the feedings. If hydrochloric acid is given after the feeding, there is less likelihood of indigestion. The stools should always be examined both microscopically and macroscopically whenever any complication arises. Errors in diet and digestion are generally the cause of fresh

symptoms. Intestinal antiseptics control meteorism, diarrhoea, etc. They have no effect on the *bacillus typhosus*. Calomel should be given for the first few days, or even as late as the second week, if necessary. Salol, 5 grains every three hours, is the favorite drug personally. In tympanites due to ulceration of the colon turpentine in small doses is often useful. The so-called specific, or Woodbridge, treatment is entirely useless in the control of the disease. Intestinal irrigation is often beneficial for the diarrhoea that occurs late in the disease. In many cases of delayed convalescence a saline causes rapid and permanent reduction of the temperature. J. M. Anders (Med. Record, June 16, 1900).

#### X-RAYS, MEDICO-LEGAL RELATIONS OF.

1. The routine employment of the x-ray in cases of fracture is not at present of sufficient definite advantage to justify the teaching that it should be used in every case. If the surgeon is in doubt as to his diagnosis, he should make use of this as of every other available means to add to his knowledge of the case, but even then he should **not** forget the grave possibilities of misinterpretation. There is evidence that in competent hands plates may be made that will fail to reveal the presence of existing fractures or will appear to show a fracture that does not exist.

2. In the regions of the ribs, of the skull, the spine, the pelvis, and the hips, the x-ray results have not as yet been thoroughly satisfactory, although good sciagraphs have been made of bones in the last three localities. On account of the rarity of such sciagraphs of these parts special caution should be observed, when they are affected, in basing upon

#### X-RAYS, MEDICO-LEGAL RELATIONS OF.

x-ray testimony any important diagnosis or line of treatment.

3. As to the questions of deformity, sciagraphs alone, without expert surgical interpretation, are generally useless and frequently misleading. The appearance of deformity may be produced in any normal bone, and existing deformity may be grossly exaggerated.

4. It is not possible to distinguish after recent fractures between cases in which perfectly satisfactory callus has formed and cases which will go on to non-union. Neither can fibrous union be distinguished from union by callus in which lime-salts have not yet been deposited. There is abundant evidence to show that the use of the x-ray in these cases should be regarded as merely the adjunct to other surgical methods, and that its testimony is especially fallible.

5. The evidence as to x-ray burns seems to show that in the majority of cases they are easily and certainly preventable. The essential cause is still a matter of dispute. It seems not unlikely, when the strange susceptibilities due to idiosyncrasy are remembered, that in a small number of cases it may make a given individual especially liable to this form of injury.

6. In the recognition of foreign bodies the sciagraph is of the very greatest value; in their localization it has occasionally failed. The mistakes recorded in the former case should easily have been avoided; in the latter they are becoming less and less frequent, and by the employment of accurate mathematical methods can probably in time be eliminated. In the meanwhile, however, the surgeon who bases an important operation on the localization of a foreign body buried in the tissues should remember the possibility of error that still exists.



7. It has not seemed worth while to attempt a review of the situation from the strictly legal stand-point. It would vary in different States and with different judges to interpret the law. The evidence shows, however, that in many places and under many differing circumstances the sciagraph will undoubtedly be a factor in medico-legal cases.

8. The technicalities of its production, the manipulation of the apparatus, etc., are already in the hands of specialists. But it is earnestly recommended

that the surgeon should so familiarize himself with the appearance of sciagraphs, with their distortions, with the relative values of their shadows and outlines, as to be himself the judge of their teachings, and not depend upon the interpretation of others who may lack the wide experience with surgical injury and disease necessary for the correct reading of these pictures. Report of Committee of the American Surgical Association (Amer. Jour. Med. Sci., July, 1900).

## Books and Monographs Received.

The editor begs to acknowledge, with thanks, the receipt of the following books and monographs:—

Proceedings of the Academy of Natural Sciences of Philadelphia, 1900. Part 1—January and February.—Transactions of the Academy of Science of St. Louis, vol. x, No. 3, 1900.—Year-book of the United States Department of Agriculture, 1899.—Report of Two Cases of Spina Bifida, One Operated Upon, the Other Aspirated. By Svenning Dahl, M.D., Chicago.—The Management of Large Congenital Exomphalos. Infantile. By Thomas H. Manley, M.D., New York, 1899.—Hæmorrhage and Circulatory Disturbances in Complicated Fracture. By Thomas H. Manley, M.D., New York, 1900.—The Therapy of Feminine Hernia in the Adult. By Thomas H. Manley, M.D., New York, 1900.—On Radical or Tentative Treatment of Piles. By Thomas H. Manley, M.D., New York, 1900.—Gastrostomy for Traumatic Stricture of the Oesophagus—Report of Case. By George Ben Johnston, M.D., Richmond, Va., 1899.—Treatment of Cancer of the Cervix of the Uterus Complicated by Pregnancy. By George Ben Johnston, M.D., Richmond, Va., 1900.—Asthma. By Richard B. Faulkner, M.D., Pittsburgh, Pa., 1900.—Observations on the Weight and Length of the Central Nervous System and of the Legs in Frogs of Different Sizes (*Rana virescens brachycephala*, Cope). By Henry H. Donaldson and Daniel M. Schoemaker, Chicago, 1900.—The Number and Size of the Nerve-fibres Innervating the Skin and Muscles of the Thigh in the Frog (*Rana virescens brachycephala*, Cope). By Elizabeth Hopkins Dunn, Chicago, 1900.—Pachymeningitis: Report of Case and Autopsy. By S. E. Earp, M.D., and J. T. Scott, M.D., Indianapolis, Ind., 1900.—Cauldrons of the Throat and Larynx Simulating and Predisposing to Tuberculosis. By Lemm H. Hoopes, F.R.C.S.E., London, Eng., 1900.—Memorial of the American Baking-powder Association in Connection with Pure-food Legislation, Washington, 1900.—Speech of Hon. William E. Mason, Upon the Evils Arising from Adulterations in Food, Their Extent, and the Legislation Necessary to Prevent the Use in Food of Alum, Sulphuric Acid, Copper Salts, Zinc, and Other Poisonous Substances, in the Senate, Washington, 1900.—Practical Tree-planting in Oregon. By J. W. Toumey. U. S. Department of Agriculture, Washington, D. C., 1900.—The Use of Water in Irrigation in Wyoming and Its Relation to the Ownership and Distribution of the Natural Supply. By B. C. Buffum, M.S. U. S. Department of Agriculture, Washington, D. C., 1900.—Our Foreign Trade in Agricultural Products, 1890-1899. By F. H. Hildreth. U. S. Department of Agriculture, Washington, D. C., 1900.

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carbonate or sodium acetate—have been personally given in 22 cases.

In controlling the fits, if the pulse is quick and tense, tincture of veratrum viride (10 or 15 minims hypodermically) acts well. Morphine seems to have the effect of lessening the excretion of urine. Chloral and bromide in large doses are very useful. In plethoric patients bleeding may be resorted to. For clearing the bowels enemata are only useful to unload the rectum. Croton-oil is very uncertain. If there is œdema of the tongue and pharynx, it may increase this and cause œdema of the glottis. Magnesium sulphate is now being used entirely in personal cases, from 4 to 6 tablespoonfuls being given in warm water. If the patient cannot swallow, it should be given through a tube. Chloral and bromide may be given along with it. To keep the skin acting a hot pack or steam-bath is most useful. Great care must be taken to prevent the patient being blistered. A hot bottle must never be allowed to touch the bare skin.

The most important part of the treatment is that directed toward getting the kidneys to act. When the patient is having convulsions, diuretics by the mouth are too slow in acting. As soon as the patient can swallow, they should be given to keep up the action. All 22 cases were given large amounts of imperial drink and milk for several days. To insure prompt action of the kidneys, saline injections were given under the breasts or into the abdominal wall or axilla. A medium-sized trocan and cannula, with a few feet of tubing and a rubber ball that is required. The puncture should be covered with adhesive plaster. The solution used in the first 12 cases consisted of bicarbonate of potassium and chloride of sodium, at their 1 to 2, and later equal parts, a drachm being used

with each pint. In the last 10 cases sodium acetate was substituted for the bicarbonate of potassium, 1 drachm of it being used along with 1 drachm of the chloride to the pint. One to 3 pints may be used at a time, and this may be repeated, if necessary. Sterilized water should be used at a temperature of about 104° F. to insure it being about 100° when it enters the tissues. Aseptic precautions must be rigidly adhered to.

The obstetrical treatment varies according to the condition of the patient. If there is no indication of labor, preference is given to leaving the uterus alone, unless the fits continue in spite of treatment, when the uterus should be emptied as quickly as possible. If dilatation by bougies and the hand is difficult, the cervix should be freely incised. If the os is soft and dilatable, or fully dilated, immediate delivery under chloroform is preferred. Post-partum bleeding should be encouraged.

Of the 22 cases, 5 died, but 1 of the deaths was due to a perforating duodenal ulcer, and occurred on the seventh day after the eclamptic condition had been cured. In another of the cases the post-mortem examination revealed double pneumonia, multiple ulcers in the stomach, and patches of acute enteritis.

Of the 23 children, 10 were alive and 13 dead. In 2 cases they were macerated; craniotomy, embryulcia, and perforation were performed on 3 others, while 3 were too premature to live. Of the 10 full-time children, all were saved except the 2 on whom craniotomy was performed.

The conclusions arrived at by David Hoig<sup>2</sup> in regard to the use of morphine in puerperal convulsions are:—

1. That while in morphine the phy-

sician possesses a valuable, perhaps the most valuable, drug for the control of puerperal convulsions, he would not yet be inclined to rely on it in the worst types of the disease with complete suppression of urine and a comatose state between attacks, but would rather have recourse in such cases to every means to promote diaphoresis and the free action of the bowels.

2. That it is much less useful in non-albuminous cases than in those where albumin is present, and may be harmful in such cases.

3. That it is of comparatively little value before delivery, chloroform being the drug of election at that time.

4. That to be efficient it is necessary to use it in large doses, as much as  $\frac{1}{2}$  grain being borne at such times without any harm resulting.

J. L. Bray<sup>3</sup> does not think that morphine alone is sufficient in eclampsia. Free elimination and chloroform has done more for him than morphine. In order to secure free elimination, elaterium or croton-oil should be given.

E. Blanc<sup>4</sup> considers the chloral treatment of eclampsia the most reliable, and has satisfied himself that it exercises a favorable action upon the inflamed and obstructed parenchyma of the kidneys. The only safe method of use is by the stomach or rectum. If the woman is in a comatose condition it is impossible for her to swallow, and accordingly the rectal method is generally preferred, the chloral being emulsified by means of milk and the yolk of eggs.

Inasmuch as the enemata are usually expelled, the method of Professor Fochier is personally preferred, whereby an œsophageal tube is introduced into the stomach, and the chloral injected. If it is impossible to open the mouth, the tube may be passed through the nasal

fossa. The chloral solution should be made in the strength of  $\frac{1}{30}$  to  $\frac{1}{40}$ . The dose should not exceed 45 to 60 grains. In this manner 2 to 4 drachms of chloral may be administered in twenty-four hours. Its administration should be continued after the disappearance of the crises, for the purpose of eliminating toxic matters from the blood.

Popescu<sup>5</sup> has observed surprisingly good results from the employment of bromidia by the rectum in doses of a teaspoonful or less in cases in which labor cannot be terminated, and in those in which the completion of delivery is not followed by cessation of the convulsions. After a few enemata have been administered, it is often well to give one large dose of morphine.

## INSOMNIA.

**Effect of Climate Upon.** — J. T. Estlin<sup>6</sup> states that the two divisions under which groups of cases on which the climate of Colorado seems to have some influence, either in favoring or preventing sleep, may be placed are the acclimated and unacclimated.

I. ACCLIMATED. — If one studies the time required for sleep, and the character of the sleep in strong, healthy persons who have been in Colorado sufficiently long to have become thoroughly acclimated, one will find that, in those who refrain from alcohol, lead abstemious lives, and keep regular habits as to retiring and eating, sleep is continuous and refreshing. On the other hand, if these same individuals lead irregular lives, keep late hours, and indulge in alcohol and smoke a great deal at night, sleep will be

<sup>3</sup> Canadian Pract. and Review, July, 1900.

<sup>4</sup> Jour. de Méd. de Paris, Jour. Amer. Med. Assoc., July 28, 1901.

<sup>5</sup> Centraltidn. f. Gynaek., June 16, 1900.

<sup>6</sup> Denver Med. Times, June, 1900.

more disturbed and less refreshing than it is at sea-level.

In those who are overworked mentally, sleep is broken, less refreshing, and is shorter in duration than is usually found to be the case in similar subjects at low altitudes.

For those who are inherently nervous and who seem to react to impressions to which the phlegmatic individual does not respond, are likely to find trouble in getting sufficient sleep in Colorado, unless guarded against taking too much physical exercise. Nervous subjects may, however, obtain an abundant sleep when care is used not to take too much physical exercise. The tendency always is, in this class of persons, to try to get rid of their nervous feelings by physical exercise, excitement, and entering into various amusements, by which they hope to induce sleep and forget themselves. By this means, however, they simply defeat the end for which they are working and increase their insomnia.

The neurasthenic always has difficulty in getting sufficient sleep, as a rule, when the condition becomes fully developed in Colorado, unless he is careful to take abundance of physical and mental rest. For this class of subjects, as in all others, it is necessary to avoid everything that alarms the patient or disturbs the heart or digestive organs.

The hysterical subject rarely is able to obtain a sufficient amount of sleep in this altitude. The nervous state is exaggerated; the pulse often becomes greatly accelerated, and insomnia intense.

Phlegmatic subjects sleep as well in Colorado as at low altitudes, and a great deal better if they are wise in avoiding overexercise of any kind, and a prolonged residence does not interfere with sleep in these persons so long as they avoid those general conditions and influ-

ences which tend to produce insomnia. These are overwork, especially physical; excesses in alcohol; excesses in tea, coffee, tobacco, etc.

There is no doubt that a prolonged residence in Colorado will increase the natural nervous condition of a person, and may cause some to become nervous who, before coming to Colorado, consider themselves quite phlegmatic. A number of such persons who have become sleepless in Colorado have been known to go to a lower altitude and be able to sleep refreshingly.

II. UNACCLIMATED.—Sleep in unacclimated persons in coming to Colorado may be increased or greatly lessened. For many persons who come to Colorado and begin to exercise and to carry this to a considerable extent, sleep becomes disturbed at once, and if they have reached the degenerated period of life and the heart-muscles have begun to weaken, it will soon be impossible for them to sleep in Colorado. On the other hand, the majority of tourists and other healthy persons, who come to Colorado and live comparatively quietly, until they become gradually accustomed to the different atmospheric condition and the change in the altitude, sleep exceedingly well. For many persons the climate of Colorado has no irritating effect, regardless of their indiscretions of overexercise.

The nervous subject rarely obtains prolonged and refreshing sleep on coming to Colorado, unless he is careful to keep very quiet. For those nervous persons whose nervousness and insomnia have been produced by overwork, cares, and worry, the climate of Colorado has especially beneficial influence in securing sleep, provided the proper precaution is taken to keep quiet on reaching there.

The hysterical often find it difficult to obtain sufficient sleep.



For the majority of tubercular subjects, sleep is worse on coming to Colorado, unless the precaution is taken to lessen his usual amount of exercise. On the other hand, the majority of tubercular subjects find it easier to obtain more sleep in Colorado than they could at a low altitude, provided they are sufficiently quiet for variable periods, until the process of acclimation has taken place.

In the overworked from the Eastern cities, when insomnia has simply been produced by overwork and worry, which have caused impaired nutrition, attended with indigestion, and has not produced any brain changes, the climate of Colorado offers the best means of overcoming the insomnia and aiding in building up the nervous system. It is in this class of cases in which, if a quiet life is led for a sufficient length of time, and hygienic conditions are followed out, that the climate does the most good.

**Treatment.**—Sir William H. Broadbent<sup>7</sup> believes that to compel sleep by opiates or sedatives is not to cure sleeplessness. It is true that when the brain has been overtaxed by engrossing work, or the nervous system has been shattered by a severe shock or exhausted by overwhelming anxiety or outworn by excitement, or the habit of sleep has been broken by long and anxious vigils over a sick-bed, a judiciously selected remedy may quiet the molecular vibrations and restore self-control to the brain and so break the wakeful habit and renew the patient's confidence. From what has been personally seen, it is considered preferable to be a victim to morphine or to opium rather than to chloral or to sulphonal or to trional.

The essential preliminary to the treatment of sleeplessness is the recognition of its cause in the particular case. Of these causes the most important is the

original constitution of the nervous system. Of all the influences which tend to bring the nervous system into a state in which sleep is ready, sound, and refreshing, the most important are fresh air and exercise. Naturally bad sleepers are greatly to be pitied. It is in such cases that the great difficulty arises of deciding whether sedatives of one kind or another may be given. If the patient can lie quiet and, while sleepless, remain tranquil, one should hesitate to give drugs. An occasional dose may be given to parry the effects of any unusual excitement or fatigue. If the pulse-tension is high chloral will be indicated as a vascular relaxant; if it is low, paraldehyde or bromide or some such combination as morphine and hyoscyamus. When the patient tosses and fidgets and gets up looking worn and tired there is more need to have recourse to sedatives, and it is extremely likely that their use will become more or less habitual. If possible, bromides should be the drugs employed. There are cases in which a moderate dose of ammonium bromide just seems to bring the irritable and sensitive nervous system to an average condition.

Anæmic girls are often kept awake by cold feet, and in debility from other causes coldness of the extremities may prevent sleep. From sleeplessness so caused a hot bottle is the obvious remedy, or, perhaps better, enveloping the legs in warm flannel up to and above the knees, which will usually be felt to be cold as well as the feet. A great help to sleep in patients suffering from sluggish circulation is a little very hot and strong beef-tea or hot milk on going to bed. Stimulants should be avoided in the case of the young. Cold feet may prevent sleep when there is no weakness

<sup>7</sup> Lancet, Jan. 27, 1900

of any kind after hard intellectual work, especially when carried on late into the night. It is not a mere negative coldness which can be rectified by supplying warmth. Under the circumstances the hot bottle, even if available, is of no use. The resource is friction, but this has to be persevered with for some time to be effectual. To stand in cold water for a few minutes before rubbing the feet is an excellent expedient. Hot beef-tea or milk is invaluable, or even a drink of hot water. Anyone who may be sleepless after hard work should be warned against opiates.

Sleeplessness may be due to a hot burning feeling in the feet. It may be part of a general sense of heat and discomfort attending gout, subacute rheumatism, or rheumatoid arthritis. Patients will often insist on putting the feet out of bed, but the relief thus obtained is only partial and temporary. The treatment of the sleeplessness will be that of the underlying condition. If an opiate is required, an old-fashioned Dover's powder is one of the best vehicles. Or phenacetin or antipyrine may afford relief.

Conditions of the circulation which do not give rise to such conspicuous effects are very frequently attended with sleeplessness. One of these is high arterial tension. The patient is to be put on a regulated diet in which the proportion of animal food will be adjusted to the individual requirements. In this the patient's previous habits and dietetic idiosyncrasies must be taken into account. A glass of water night and morning is usually a good thing. Among the most efficacious of the stimulants is a mercurial cathartic, which, as it may have to be repeated once or twice a week for a long time, must be mild. A single grain of calomel or one or two mercurial pills or mercury with phloz with colic with

and hyoscyamus, or compound rhubarb pill, may be taken twice a week indefinitely. The eliminant action of the mercurial aperient may be followed up by mild salines or by alkaline tonics.

Rare instances are met with in which extremely low tension appears to give rise to sleeplessness, or, at any rate, makes sleep in the horizontal position difficult or impossible. In the sitting position these patients can scarcely keep awake. The treatment here must be tonic.

By far the most common cause of sleeplessness is indigestion in its various forms, and the particular incident of indigestion which seems to be the most active antagonist of sleep is flatulence, especially gaseous distension of the stomach. It does not follow that, when flatulence is the cause of sleeplessness, the patient should suffer from the ordinary symptoms of flatulent dyspepsia: epigastric pain or discomfort, and frequent eructations. Flatulent distension of the stomach produces its worst effects when one is not conscious of its existence. Flatulent dyspepsia very often interferes with sleep on first going to bed, and may keep the sufferer awake indefinitely. This faculty it shares with various causes of sleeplessness, but one very common variety of sleeplessness is highly characteristic of flatulence. The patient, possibly a good sleeper naturally, falls asleep on getting into bed and then wakes punctually night after night at a given hour, at two o'clock, three o'clock, or four o'clock as the case may be, and then lies awake for the rest of the night. The explanation is that the last meal has not been entirely passed on into the duodenum. Fermentation takes place in the food which remains in the stomach, and after a certain time sufficient gas and acidity has been developed to disturb the sleep.

The treatment of sleeplessness due to flatulence is that of the dyspepsia. The simplest expedient for preventing the interference with sleep is a tumblerful of hot water at bed-time. The hot water should be taken before undressing. Should hot water not be sufficient, sal volatile and carbonate of soda may be taken before it or an alkaline carminative draught may be given—carbonate and sulphocarbolate of soda with aromatic spirit of ammonia, compound tincture of chloroform, or ether and peppermint or camphor-water and sometimes bromide of sodium or ammonium may be added with advantage for a time. Friction over the epigastrium or between the shoulders may help to disperse the flatulence. It is, however, not well to allow even so simple and harmless a matter as a nightly dose of hot water to grow into a habit. As a rule, it should not be continued for more than a week at a time. An alkaline draught can be taken longer without losing its effect.

Tea and coffee are looked upon as powerful agents in the prevention of sleep. When, however, it is stated that a cup of tea in the afternoon will keep a given person awake all night, it is doubtful whether it is the tea, as such, which is responsible for the result. Imagination often plays a very influential part in the effect. Let such a person be confidently assured that pure China tea, brewed for not more than two minutes, is innocent of such evil properties, and he or she will often take it with impunity whether it conforms exactly to the description or not. But afternoon tea is a very common cause of flatulent dyspepsia, and in this way may be responsible as the cause of protracted sleeplessness. So with the after-dinner cup of black coffee: it is often the dinner, and not the coffee, which disturbs the night's rest.

Influenza causes sleeplessness of a most obstinate character. Sleeplessness following influenza must be treated as an acute affection, and, unless there is speedy improvement under such tones as arsenic or phosphorus, strychnine and quinine, together with measures for the relief of functional derangements, opiates may be given without hesitation, and it is better to have recourse at once to combinations of opium or morphine and hyoscyamus with carminatives than to try sulphonal, or trional, or chloral and bromides. In case of need, morphine may be given hypodermically and it usually adds greatly to the efficacy to combine it with strychnine as well as atropine. A result of long-continued alcoholic excess is sleeplessness culminating in delirium tremens. The remedy here is total abstinence with considerable doses of strychnine or nux vomica and perhaps digitalis. At the same time the liver and stomach disorders resulting from the alcohol will demand attention.

Among the popular remedies for sleeplessness is the hop-pillow, which certainly sometimes seems to soothe. There is, again, the saffron-bag applied to the pit of the stomach. Gently smoothing the hair is undoubtedly efficacious in many cases, as is also sponging the burning palms. Dipping the face in cold water is one of the expedients of the worker late at night; some will sponge the entire head. Then there are the different ways in which people try to hypnotize themselves by watching and counting the invisible breath, slowly counting imaginary sleep as they pass through an imaginary gate, and the like. Hypnotism, too, has its legitimate role in inducing sleep.

According to J. H. Kellogg,<sup>2</sup> the most important general hygienic means for

<sup>2</sup> Modern Medicine, Mar., 1907.



the relief of insomnia is the neutral immersion-bath at bed-time. The temperature should be  $92^{\circ}$  to  $95^{\circ}$  F., and the duration may be from half an hour to an hour and a half, or even longer. In obstinate cases it is not unwise to allow the patient to fall asleep in the tub, care being taken to see that the head is not submerged. By letting a little hot water into the tub occasionally, so that the temperature will be maintained at the proper point, the patient may be allowed to sleep in the bath for two or three hours, or even longer.

The neutral douche for one to five minutes ( $95^{\circ}$  to  $92^{\circ}$ ), at a pressure of fifteen to twenty pounds, is as effective as the neutral bath of four or five times as great duration.

The hot leg-bath ( $110^{\circ}$  to  $115^{\circ}$ ), with a neutral pour to the spine ( $94^{\circ}$  to  $96^{\circ}$ ) for ten to fifteen minutes, and the cool compress to the head, may with advantage be applied just before retiring in cases in which cerebral congestion is the leading cause of the sleeplessness.

The evaporating head-cap may be applied in such cases with advantage. The anti-bath at  $95^{\circ}$  for two minutes, the rubbing wet sheet at  $60^{\circ}$  for two minutes, following a fomentation to the spine or abdomen for five to eight minutes, the scratch douche to the spine and legs ( $105^{\circ}$  for two minutes,  $60^{\circ}$  for fifteen seconds), and the wet sheet pack are measures the value of which has been proved.

The wet sheet pack is one of the most effective means of producing a condition of the brain favorable for sleep. During the neutral stage of the pack the cutaneous reflexes are suspended almost as completely as in the neutral bath. By withdrawing a portion of the wrappings when the neutral stage of the pack is reached, this period may be indefinitely extended. If the patient has fallen asleep, he need

not be awakened. From personal experience it is believed that two hours' sleep in a neutral pack or the neutral bath is as refreshing as sleep twice as long under ordinary conditions.

At the conclusion of the neutral bath, the patient should be placed in bed at once. Care should be taken to avoid chilling the skin by evaporation. On rising from the bath, the patient should be instantly wrapped in a Turkish sheet and gently patted dry, without vigorous rubbing. Everything having been previously arranged, he should be prepared for sleep as quickly as possible.

If cerebral congestion is a prominent feature, measures necessary for the relief of this condition should be employed. Cold extremities may be warmed by the hot-water bottle, or, better, by the heating compress applied to each leg separately. When the legs are habitually cold, massage, the hot leg-bath, followed by cold rubbings and the cold leg-pack, should be daily employed. Cramps in the legs occurring during sleep may be relieved by rubbing the soles of the feet with ice, or stepping upon a cold metal surface.

When the patient cannot sleep because of fidgets, the neutral pour ( $96^{\circ}$  to  $92^{\circ}$ ) should be applied to the spine for ten minutes before retiring. If there is extreme hyperæsthesia of the lumbar ganglia and solar plexus, a fomentation should be applied over the abdomen just before retiring, and the heating compress should be applied to be worn during the night, either with or without the protection of a rubber cloth.

When sleep is prevented by excessive heart-action, as in exophthalmic goitre, ice-bags should be applied over the heart.

Muscular rigidity and the excessive tension which sometimes produce insomnia in cases of paralysis agitans are

best relieved by the application of the strong faradic or sinusoidal current or fomentations just before retiring. The application should be sufficiently strong to produce tonic spasm of the muscles. The neutral bath is of great service in these cases ( $96^{\circ}$  to  $94^{\circ}$ ); duration, twenty to forty minutes.

In the application of galvanic electricity for the relief of insomnia, one pole should be placed at the top of the head, with the hair moistened, the other to the epigastrium; or a broad sponge electrode to the forehead and another to the occiput; or an electrode the size of the hand may be placed at the back of the neck and another over the epigastrium. The anode, or positive pole, should always be nearest the brain. The strength of current employed should be from 4 to 10 or even 20 milliampères, according to the size and location of the electrodes. As strong a current as possible without producing disagreeable vertigo should be used. The application should begin with a very gentle current, 2 or 3 milliampères, and should be gradually increased until the extreme point of tolerance is reached. The duration of the electrical application should be about ten minutes.

When sleep is broken by frequent urination induced by cystitis or irritation of the prostate, the measures necessary for the relief of this condition should be employed. The neutral sitz at bedtime is a most useful measure ( $94^{\circ}$  to  $92^{\circ}$  for fifteen to thirty minutes). The same may be said in reference to the condition known as "night-terrors" and nocturnal enuresis.

R. W. Wilcox<sup>9</sup> finds that an hypnotic which shall approximate as closely as possible the theoretical agent must combine one of the alcohol radicles for the action in breaking contact of the dendritic processes with chlorine to affect simultane-

ously the downward protoplasmic processes: it must be free from depressing action on the heart and blood-vessels, it must not derange the assimilative system; it must be safe; it must be reliable, and it must be palatable. Chloretone meets so completely each one of these requirements as to present itself as a very close approximation to the theoretical hypnotic.

The customary dose is from 6 to 18 grains; yet a case is recorded in which the patient, through misadventure, took as many as 36 tablets of 3 grains each, in all 108 grains of the substance, and, while cast into a profound sleep for three days, he did not present, either during this sleep or after restoration to consciousness, any symptom to cause the least alarm.

In all the use which has been made of this substance, it has never yet failed of prompt action for the purpose for which it was administered.

Chloretone is given in the form of rapidly disintegrating tablets, which are practically devoid of taste. In crystals it is given either in capsules, which are absolutely tasteless, or even in the uncovered powder, in which the only taste is a not unpleasant flavor of camphor, which is found quite volatile and evanescent.

## OTITIS MEDIA.

**Diagnosis.** — C. H. Burnett<sup>10</sup> observes that, when there are objective or subjective symptoms of ear disease in a young child, the attention of the medical attendant is called to the existence of an ear disease in the case, even if the ear is not treated. But if there are no symptoms calling the attention to the ear

<sup>9</sup> Med. News, Apr. 14, 1900.

<sup>10</sup> Penna. Med. Jour., May, 1900.

as a seat of disease in an ill child, naturally even a grave disease of the middle ear would easily escape detection.

It has long been known that of all middle ears examined in infants, dead from any asserted cause, normal ones are a rarity, a large proportion being found to be the seat of suppuration, unsuspected and unrevealed until the autopsy.

The starting-point of the middle-ear disease in these grave cases is, as a rule, the naso-pharynx. That serious inflammation of the middle ear in a young child exists without much, if any, pain might be explained by the fact that enough pus may escape from the drum-cavity into the naso-pharynx, through the short, wide Eustachian tube of a young subject, to relieve tympanic pressure and prevent pain in the ear. This escape of pus into the naso-pharynx may also help to explain the infrequency of spontaneous perforation of the membrana in young subjects affected with purulent otitis media.

It has become very clear to many minds that the reason so many young children die is because the real origin of their fatal malady, a middle-ear inflammation, is unrecognized and therefore untreated. Such an unsuspected otitis media is practically symptomless until the membrana tympani is inspected, when the latter will be found presenting symptoms of inflammation in the drum-cavity beyond.

Pomeroy holds that there is otitis media in *all* grave diseases in young children, and he asserts that, therefore, it becomes the duty of every practitioner in attendance upon an ill infant or young child to make an examination of the membrana tympani as much a part of his routine examination as inspection of the tongue. He must not wait for "external symptoms," like otorrhœa, etc. He also shows by a report of his cases that if the membrana tympani is incised and the

pent-up secretions allowed to escape, symptoms attributed to brain, bowel, or lung diseases will suddenly vanish and the child speedily recover. So important are these facts that he maintains that the physician who cannot examine the infant's membrana tympani, diagnose a tympanic suppuration, and relieve it by paracentesis is not doing his duty as a specialist in children's diseases.

Inspection of the membrana tympani is not an easy thing to learn. Gruber, of Vienna, said, twenty-eight years ago, that he would not accept the statement of a physician regarding the condition of the membrana tympani until such a one had examined a great many membranæ every day for a year. Then an examiner of the membrana can interpret what he sees upon this important organ. He will often learn by inspection of the membrana, and only in this way, that, especially in sick children, paracentesis of the membrana tympani must be performed or the little patient may die. For it is the young child without discharge from its inflamed middle ear that is in danger of its life, and not the child with an otorrhœa, for in the latter the presence of disease of the ear is at least recognized and the ear will get well promptly if not secondarily infected from without.

**Complications.**—Thomas Barr<sup>11</sup> refers to the possible relation of acute otitis media to pneumonia. Both seem frequently associated with the same micro-organism the pneumococcus—and a number of cases of pneumonia have been personally seen beginning apparently with an acute otitis media. Case of a young child who had an obscure illness with curious pyæmic-looking temperatures immediately after an acute otitis media. The temperature varied from

<sup>11</sup> Glasgow Med. Jour., June, 1900.



105° to normal, and while there was a suspicion of a pneumonic patch, it could not be made out with certainty. From the acute character of the ear affection, and from the condition of the ear, the symptoms were not thought to be due to a sinus affection. Pneumonia developed, and in due time passed off satisfactorily. Had the ear affection been of a chronic nature, the peculiar phases of temperature would have justified a much graver prognosis. Such cases open up the question of the possibility of the propagation of the pneumococcus directly from the middle ear through the medium of the Eustachian tube and respiratory passages to the lungs.

**Treatment.** — W. H. Wakefield<sup>12</sup> believes in treating earache caused by incipient inflammation of the middle ear by active purgation and continuous local application of heat. Internally from 2 to 12 drops of a mixture of tincture of belladonna-leaves and tincture of aconite-root in the ratio of 5 parts of the former to 3 of the latter, are given every two or four hours. The local application of heat is followed by filling the ear with a 10-per-cent. solution of carbolic acid in glycerin. If these measures do not relieve the pain, the application of heat is resumed and a full dose of paregoric is given. Sometimes relief is obtained by a 5- to 10-per-cent. solution of cocaine dropped into the ear hot.

J. L. Masters<sup>13</sup> says, for the relief of pain in the earache of children, heat is in the first rank. Usually dry heat applied, as a hot-water bottle, will greatly relieve the suffering. If this fails, water as hot as the patient can stand it poured into the ear continuously for twenty minutes with a medicine-dropper will frequently give relief. The remedies usually used depend on the fact that they are hot for their virtue.

An alcoholic solution of menthol painted around the ear often relieves the pain somewhat. Quiet aids greatly: so the patient should be kept as still as possible. Laudanum or cocaine or other poisonous drugs should not be poured into the ear, because they do no good unless hot, if the membrana tympani be intact, not being absorbed by the skin, and they may produce poisonous symptoms if it be perforated and the medicine is absorbed by the mucous membrane.

Having done this much, the doctor should determine the cause of the pain and direct his efforts toward its removal. He should inflate an ear, lance a gum, treat a sore throat, abstract blood, open a boil, or puncture a bulging membrana tympani, as the particular case in hand shall indicate.

D. B. St. John Roosa<sup>14</sup> observes that the principle at the basis of all treatment of acute aural disease is to quickly unload the congested blood-vessels of the ear. There are furuncles in the ear that pain excessively; there is also a form of otalgia dependent on decayed teeth; but in a very large proportion of cases a severe pain in the ear, of idiopathic origin, depends on acute catarrhal inflammation of the pharynx, the Eustachian tube, and tympanum. When the diagnosis of acute inflammation of the tympanum and Eustachian tube, constituting with the mastoid the middle ear, is made, if it be within a few hours of its origin, one may generally hope to subdue it by the free use of hot water. This hot water should be used by the fountain-syringe, and not by piston-syringes of any kind: the latter are simply useless. What is wanted is a continuous stream

<sup>12</sup> Carolina Med Jour, Jan., p. 237, 1900.

<sup>13</sup> Med. and Surg. Monitor, July 15, 1900.

<sup>14</sup> Post-graduate (Lancet), 1900.

of very hot water of a temperature between 90° and 100° F., for some minutes. From 1 pint to 1 quart of water should be used at each time, and the irrigation should be repeated every fifteen minutes or every half-hour until the pain is subdued. Furunculosis does not always tolerate hot water. If it be a very young subject, under six years of age, this treatment will usually be adequate to subdue the pain.

If the hot water relieves pain in an infant, even if it must be continued very often for two or three days, the membrana tympani is not personally incised unless it bulges so excessively that a mere nick will be sufficient to give exit to well-defined pus. It is here particularly that paracentesis unnecessarily performed will do harm. In young children the drum-head usually ruptures spontaneously within a few hours, or the hot water subdues the pain thoroughly and the inflammation is abated. There is no such haste, either in an infant or adult, as is now generally supposed for the performance of paracentesis in acute inflammation of the tympanum.

If the hot water does not subdue the pain in the case of an adult in a very few hours,—say, four to six,—the next step is to apply leeches; these should be put upon the tragus; very seldom are they required on the mastoid. When the disease has reached such a stage that the mastoid is red and tender, and perhaps swelled, a Wildes incision is a much better evacuant than leeches. If hot water and leeches do not subdue the pain, one should think of opening the drum-head. It is very doubtful if that alone will at once subdue it if the leeches have not already done so. Even after the paracentesis it may be necessary to repeat the leeching. During all this treatment the patient should be kept in a warm

room and in bed. A gargle of very hot water should be frequently used. In cases of children not old enough to gargle, it is well to spray out their nostrils and swab out their throats with Dobell's solution, Seiler's solution, or salt and water, as warm as possible.

The subsequent progress of the case varies. Great care should be exercised to keep the ear in an aseptic condition. This is better done with hot water that has been boiled and reduced to a toleration-point in temperature than by any of the medicinal antiseptics. As the patient gets about the room, inflation by Politzer's method should be practiced. No medicine will be necessarily needed from the beginning to the end of this disease, and antipyretics and opium unnecessarily used will often do harm. Most of the cases of mastoid disease, cerebral abscesses, and affections of the sinuses are the result of neglected or improperly treated acute aural disease.

Very young infants waking in the night with earache may be often quieted by breathing frequently into the ear.

In acute suppurative otitis media, if the discharge has not actually commenced and the tympanic membrane is bulging, Wendell C. Phillips<sup>15</sup> advises a free incision to be made. Many serious results may be avoided by early incision, at least as soon as pus is present in the tympanum.

For the relief of the excruciating pain during the time previous to discharges not much can be done aside from applications of heat and narcotics.

After the discharge is established, the requirements are cleanliness and free drainage—and cleanliness should refer to the nose as well as to the external ear and auditory canal.

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<sup>15</sup> Post graduate, June, 1900.

Personal method of treatment in the clinic is to give the patient some hydrogen peroxide, a little box of sterilized absorbent cotton, a glass dropper, and a small soft-rubber syringe. A quantity of sterilized saturated solution of boric acid is also directed to be prepared, then they are directed somewhat as follows:—

The head is to be placed horizontally with the affected ear upward, and the auditory canal is to be filled with hydrogen peroxide, which is to remain five minutes. After which, with the syringe, about a pint of the solution, warmed, is used, a pus-basin being placed beneath the ear to catch the return-flow.

These treatments should be given every two hours by the nurse or mother, and added to it the physician should himself give the treatment in its entirety at least once each twenty-four hours. During the intervals cotton should be placed loosely in the outer ear and changed whenever it becomes soaked with pus.

Another very good plan of treatment is simply to douche the ear every two hours with a solution of hydrarg. bichlorid., 1 grain to 6 ounces, using the entire amount each time.

One should not blow the canal full of powdered boric acid, as it dams up the discharges. Many mastoid complications are the direct result of this method of treatment.

The general or internal treatment may often be commenced during the suppurative period.

This treatment should be just whatever the general condition of the patient seems to require. Iron, codliver-oil, iodide of potash, creasote, and hypophosphites may be mentioned as most helpful medicaments.

In suppurative otitis media in young children George L. Richards<sup>16</sup> regards the constitutional treatment as of the great-

est importance, always to be carefully looked after and appropriate measures instituted. If the suppuration has lasted some time, the discharge very foul, and caries of the tympanic structures already marked, the ear is personally syringed thoroughly with warm sterile water or with a solution of 1 to 5000 bichloride of mercury until all *débris* has been removed. The canal is then carefully dried and the ear inspected. If there is much destruction of the tympanic membrane, peroxide of hydrogen is applied on a cotton pledget (never dropped in) as long as there is any exudation of gas, and after again drying the parts, a saturated solution of boric acid in from 40 to 90 per cent. of alcohol, the percentage of the alcohol depending on the age of the child and the ability to bear the pain of the alcohol, is applied. In young children over 50 per cent. alcohol is seldom used. Next the whole surface is dusted lightly with powdered boric acid or some similarly-acting powder; of late boric acid and acetanilid have been used with good results. Some object to the use of powders at all. A powder can, however, be used with perfect safety in the ear if care is taken not to use too much and the powder is free from lumps. Lastly, the ear is lightly stoppered with a small narrow wick of iodoform or other antiseptic gauze, care being taken that the gauze reaches to the bottom of the canal.

If the process is more acute and the perforation small, neither the peroxide of hydrogen, nor the boric-acid alcohol, nor the powder is used; but simply as thorough cleansing as possible through an opening in the drum-membrane large enough to insure drainage, with the insertion or gauze-wicking or cotton pledgets frequently changed in the manner to

<sup>16</sup> Med. News, May 19, 1900.



be described. If there is the slightest doubt as to the opening being large enough, a free incision is made at the posterior inferior quadrant of the drum-membrane.

The office treatment is now apparently ended, but the mother or the attendant must be instructed in the home-treatment. With the aid of a diagram, the mother is shown a little of the anatomy of the ear, it being explained that the floor of the middle-ear cavity is lower than the external outlet and that consequently natural drainage must, of necessity, be very poor. She is told that drainage is what is wanted and that it is absolutely essential.

Now a knitting-needle is taken with the ends roughened by a file and the mother is carefully shown how to loosely, but firmly, wind a piece of cotton on the same with the end projecting a quarter to half an inch beyond the needle-tip, far enough so that no harm can come to the ear from its use when gently inserted. A tapering wooden tooth-pick or any long, slender object with roughened surface will answer as well. To avoid the slightest possibility of doing any damage with the applicator, the mother is instructed to hold the applicator so that it cannot possibly be pushed into the ear beyond a safe distance, and this distance is shown her. Taking the child before a good light, she is taught how drawing the cartilage of the ear backward straightens the canal, and shows how to insert this cotton pledget to the bottom of the canal, being warned against the most frequent cause of failure, the taking of too large a piece. She is told that on the following day, or as soon as the wick personally put in is soaked through, she is to withdraw it and then wipe out the canal-way to the bottom, as taught. This is continued with fresh pledgets until the

tip of the pledget is no longer moist. She is then instructed to take as much of the powder ordered for her as will go on the tip of a small penknife, and, through a bit of rubber or glass tubing, blow the same into the ear. If the perforation is a good-sized one and considerable caries is present, the boric-acid alcohol drops are frequently also used at home. Finally, the mother inserts a small, narrow pledget deep in the ear, and, withdrawing her needle with a backward twisting motion, leaves the cotton in the ear. This procedure is to be done from one to three times a day, according to the severity and activity of the process present, and the child is directed to be brought to the office in from three to seven days. No home-syringing is allowed in this method, and the results are more rapid and satisfactory than when home-syringing is done.

### PERTUSSIS.

**Complications.** — Walter A. Dunckel<sup>17</sup> notes the result of observations personally made on 261 cases treated at the New York Dispensary. Fifty-five per cent. of these cases had been seen in the summer months, and in December and January; 60 per cent. occurred in females. Complications had been noted in 25.6 per cent., bronchitis being included in this reckoning. It is sufficient to give rise to physical signs. Forty-six per cent. of the complications had occurred in the months of January, July, and August, from which it seemed fair to assume an increased liability to complications from whooping-cough during these months of the year. Diarrhœa had been observed almost entirely during the hot season. Wasting had been noticed in eight cases. Only one of the children had convulsions.

and these had been due to the onset of pneumonia. As a rule, broncho-pneumonia had been a late complication. In five cases relapse or recrudescence of the whooping-cough had been observed. Tuberculosis did not occur more frequently in whooping-cough. Not one of the cases had had an endocardial murmur, or any other symptom of cardiac enlargement.

**Treatment.**—The comparative drug values were observed in the treatment of 752 cases of whooping-cough by C. G. Kerley.<sup>18</sup> As the cases had developed, they had been separated into groups of twenty, and were allowed to cough without treatment until the height of the paroxysmal stage had been reached, which usually required from ten to fourteen days. The ages of the patients treated varied between six weeks and twenty-six years. Three patients only had reached adult life. Five-sixths of the patients had been under four years of age, and one-half under two years of age. It was found that the very young and the very delicate often did not whoop during a severe attack of whooping-cough. The drug treatment consisted of insufflation, internal administrations, and inhalations. Resorcin and boric acid, combined with bicarbonate of soda, were used by means of insufflations in 6 institution cases, but were discontinued after three days because the treatment was impracticable and useless. Vapo-cresoline was tried, with absolutely no result. Alum, fluid extract of horse-chestnut leaves, dilute nitric acid, cocaine, bromoform, bromides, belladonna, and antipyrine were all tried. The first three were used, and found valueless. Alum had appeared to be of some service, but had been badly borne by the stomach. Bromoform proved very unreliable. Cocaine in doses of  $\frac{1}{10}$  grain every four hours for a child

of two years was employed in about 25 cases. It controlled the severity of the paroxysms somewhat, but not sufficiently to warrant its continuance. Great benefit was found from quinine if a large amount could be given. It was difficult to give from 12 to 20 grains of this drug daily, as required. When quinine could be given in capsules, the number and severity of the paroxysms were remarkably controlled—sometimes the number being diminished one-third to one-half. Belladonna was used in 60 institution cases, being administered up to the physiological effect; this had required from five to seven days. No influence was observed from this in a single case. True, the cases upon which it had been used were very severe, but they yielded to other means. Equal parts of bromide of sodium, ammonium, and potassium were tried in 60 institution cases, using from 12 to 16 grains daily for a child of one year. The results from this treatment were better than those previously mentioned. Antipyrine was used in 60 institution cases, and it controlled the paroxysms better than any other drug employed, and caused only a trifling depression if administered with ordinary care. The combination of the bromide with antipyrine was used in 60 cases, with better results than those obtained from using either one of these drugs independently. For a child of eight months,  $\frac{1}{2}$  grain of antipyrine and 2 grains of sodium bromide should be given every two hours for six doses, and then its administration should be discontinued for a period of twelve hours. For a child between two and a half and four years of age, 2 grains of antipyrine and 3 or 4 grains of bromide should be given every two hours for twelve hours before being

resumed. The steam-spray and fresh air were also useful adjuncts to the drug treatment of whooping-cough.

If the remedy is to be of service, its beneficial results may be noticed within twenty-four to forty-eight hours.

Herman<sup>19</sup> says that in the Good Samaritan Dispensary the best results have been secured from a mixture, containing, for a child of two years, 2 grains of antipyrine, 1 minim of tincture of digitalis, and 4 minims of camphorated tincture of opium. Heroin was tried at the Mount Sinai Dispensary in about 20 cases, but the result was not good. In a number of cases, for purposes of comparison, antipyrine was used first, and subsequently heroin, but the latter with less satisfactory result. On resuming the antipyrine, the same control of the paroxysm was noted that had existed before the use of the heroin.

S. S. Gerenstein<sup>20</sup> has treated ten cases of whooping-cough with euquinine with excellent effects. No pernicious action could be observed, although the remedy was given for a long period. The chief advantages possessed by euquinine are the absence of unpleasant by-effects and its tastelessness.

W. A. Dunckel<sup>21</sup> places chief reliance on the use of belladonna, and malt and codliver-oil preparations.

Moncorvo<sup>22</sup> reports 26 cases of whooping-cough cured in from 3 to 8 days by means of a 1-per-cent. solution of asaprol applied to the pharynx every two hours in the day.

An editorial<sup>23</sup> observes that the broncho-pneumonia complicating pertussis which so frequently proves fatal is, according to Lacomme and Mercier, usually due to secondary streptococcic infection, although the pneumococcus or staphylococcus aureus may be the active agent. It is most apt to occur during the spasmodic

period. Disinfecting the air-passages is the most effective form of prophylaxis. A mixture of equal parts of benzoin and salicylate of bismuth, with  $\frac{1}{10}$  part of quinine sulphate, is excellent for nasal insufflation. The throat may be swabbed with a 2-per-cent. solution of resorcin, or asaprol, 5 per cent., every two hours. Baroux employs oxygenated vapor, having a couple of sheets hung in the sick-room, and moistened every four hours with 3 ounces of peroxide of hydrogen (twelve volumes). The spasmodic attacks are said to diminish in frequency and gravity under this treatment. Lacomme and Mercier recommend that the child's clothing, the bedding, etc., be freely sprayed with the following mixture, which they call gallinacol:—

- R Ether. sulph., 12 ounces.  
Ether. acet., 5 ounces.  
Spiritus (90 per cent.), 10 ounces.  
Salol.,  $1\frac{1}{2}$  ounces.  
Ac. carbolic. cryst., 4 drachms.  
Ol. lavandul., 6 drachms.  
Ol. gaultheriæ, 6 drachms.

M. Sig.: External use. (Maragliano.)

In addition, the nasal cavities and mouth should be disinfected as far as possible by means of boric-acid insufflations and the use of an appropriate mouth-wash and dentifrice. Pure air, above all, is required.

In whooping-cough Henry Coggeshall<sup>24</sup> first cocainizes as much of the nasal mucous membrane as can be done by the use of a spray, followed by cotton-dipped probes wet with the solution, then

<sup>19</sup> Pediatrics, May 1, 1900.

<sup>20</sup> Eschenedelnik, No. 37, '99.

<sup>21</sup> Pediatrics, May 1, 1900.

<sup>22</sup> Jacobi Festschrift; Phila. Med. Jour., May 26, 1900.

<sup>23</sup> Med. News, July 28, 1900.

<sup>24</sup> Ibid., Mar. 31, 1900.



an application of a 2- or a 4-per-cent. solution of nitrate of silver to the nose and naso-pharynx, to be followed by a mild alkaline and antiseptic wash by spray or by post-nasal douching. Such treatment can hardly be carried out in infants, but with children of three years or more it is perfectly practicable. The good effect of belladonna is believed to be partly due to its action on the nasal mucous membrane. The use of suprarenal extract applied to the nasal mucous membrane is suggested.

G. J. Kauheimer<sup>25</sup> has had the greatest experience, and has obtained the most favorable results in whooping-cough, with bromoform, it being used in over 40 cases, ranging from four months to ten years of age, and of all grades of severity. In all the cases from which reports were received there was a good effect, the paroxysms diminishing in violence and frequency, vomiting and epistaxis ceasing, and sleep being undisturbed. No unfavorable effect was produced, except a burning in the throat and stomach, due to an imperfect method of administration at first adopted.

Bromoform is soluble in alcohol and ether, but very slightly so in water. Chemically it is quite stable, but, until its affinities are better known, should be given only with indifferent drugs. Owing to its great specific gravity, and the fact that there is no settled practice among the pharmacists of this country in regard to dispensing by weight or measure, it is the safest to prescribe it by drops. A fluidrachm contains 480 drops; a drachm, by weight, 160 drops. The dose is 1 drop for each year of age, given from three to five times a day, according to the severity of the disease and the effect produced. It is personal practice to prescribe only three-fourths of the quantity required: to give the indicated dose per teaspoon-

ful until the susceptibility of the patient has been tested, when the dose can be increased, if necessary. If the dose is too large, stupor will set in. It may be given in syrup of acacia, or with mucilage of acacia, or tragacanth, or with an emulsion of codliver-oil, the latter being particularly adapted to debilitated children. The parents should be thoroughly impressed with the necessity of shaking the bottle before pouring out the dose, as unpleasant symptoms have been caused by the last dose containing much more of the drug than the previous one. It can also be administered by inhalation. A number of cases of intoxication have been reported from the administration of overdoses.

In severe and obstinate cases, where the demand for relief is imperative, the administration of opium, hyoscyamus, conium, chloral, or other narcotics, until some physiological effect is produced, may be needed, or resort may be had to the inhalation of chloroform or ether during the paroxysms.

In all, except very severe cases, benefit is derived from a sojourn in the open air. Even on cold days,—except when damp, raw, or muggy,—the good more than counterbalances the possibility of harm from exposure. The clothing should be warm, but not tight or heavy.

The diet should be easily digestible and nutritious, avoiding heavy meats and excess of sweets. The child should be fed often and in small quantities, and it is often of advantage to give small quantities of food soon after vomiting. The bowels and skin should be attended to, and exposure to irritating vapors, such as tobacco-smoke or smoke of frying grease, should be avoided.

The treatment of the stage of deberea-

<sup>25</sup> *Pediatrics*, Nov. 15, '99.

cence should be tonic, and directed to the cure of any sequel or complication. Cod-liver-oil, syrup of iodide of iron, and the hypophosphites all have their place here.

C. E. Stokes<sup>26</sup> says that a number of children in the same house, and of nearly the same age, were being treated for whooping-cough with  $\frac{1}{2}$ -minim doses of bromoform three times a day, suspended in mucilage of tragacanth. When called to two of the children about 12.30 P.M., they were found unconscious, lying side by side, with breath smelling strongly of bromoform, with faces pale, eyes closed, pupils contracted, and limbs flaccid. The respiration was feeble in the elder child (aged 4) and stertorous in the younger (aged 2); about 12.40 P.M. respiration ceased in the younger child, and artificial respiration was resorted to, and a few minutes later artificial respiration had to be resorted to for the elder. Each of the children was given about  $\frac{1}{2}$  teaspoonful of brandy hypodermically, and then three injections of strychnine each at intervals of fifteen minutes, to the elder  $\frac{1}{2000}$  grain and to the younger  $\frac{1}{4000}$  grain each time. Their stomachs were washed out two or three times with hot water, followed by a strong coffee, some of the latter being allowed to remain in the stomach. The younger child rallied first, and began to breathe spontaneously after an hour and a half's artificial respiration. The interval was about the same in the case of the older child, but he remained drowsy and stupid for some hours. According to the nurse's account, the children had their doses about 8 A.M., but these were the last in the bottle. Shortly after this they were put to bed, and on being awakened about 11 A.M. they were giddy and confused, and staggered in their gait.

From this time onward the symptoms gradually developed.

The bromoform must have accumulated at the bottom of the bottle, through it not having been properly shaken up each time; but even on this hypothesis it is hard to see how the children could have had more than 3 or 4 minims each of pure bromoform in a dose of a teaspoonful.

In the treatment of whooping-cough Heim<sup>27</sup> used a new preparation containing fluorin and bearing the trade-name antitussin, in 16 cases without synergists. The benefit obtained was in striking contrast to the results which followed the use of some of the other new remedies, for it appeared to be constant and marked. The drug is exhibited in ointment form. In order to apply antitussin the throat, chest, and interscapular region are well washed with warm soapsuds and then rubbed dry. A lump of the ointment as large as an English walnut is now rubbed in vigorously with the palm of the hand, friction being kept up until no more ointment is visible upon the surface.

Of the 16 cases, 9 were in the convulsive stage, and were all under the age of one and a half years, in relatively poor health, and with unfavorable surroundings. All cases were severe. The improvement was always prompt, and, at times, startling. Cyanosis and threatened asphyxia were arrested so promptly that there can be no doubt that the drug has a marked anticonvulsive action. It also loosens the secretions. The duration of a case of pertussis appears to be greatly shortened.

Brit. Med. Jour., May 26, 1900.

Berl. klin. Woch., Dec. 11, '99.

## Cyclopædia of Current Literature.

### ABDOMINAL SECTION. AFTER-TREATMENT OF.

In cases of hysterectomy which are accompanied by a good deal of shock, and in cases where the patients are feeble or collapsed, a nutrient enema of  $2\frac{1}{2}$  ounces of beef-tea and  $\frac{1}{2}$  ounce of brandy should be given within an hour or two and repeated every four or six hours. Nothing is given by the mouth for twenty-four hours unless there be no sickness and the patient craves for some fluid. She may in that case commence six hours after to take a teaspoonful of hot water every hour. Where the sickness and retching are very persistent and troublesome the administration of  $\frac{1}{2}$  pint of hot water with 20 grains of bicarbonate of soda dissolved in it will often act most beneficially. Opium in any form should, if possible, not be given. After twenty-four hours nourishment can be taken (provided there is no sickness). Most patients crave for a cup of tea (about 4 ounces) with plenty of milk, and every hour afterward  $\frac{1}{2}$  ounce of equal parts of milk and hot water can be given. When the sickness continues, everything should be stopped by the mouth and the patients should be fed per rectum.

The two greatest dangers after abdominal section are, in personal experience, shock and tympanites from intestinal paralysis. The shock is combated by hypodermic injections of 3 minims of solution of strychnine three times a day. For tympanites one plan is to try to prevent its occurrence by having a soft rectal tube passed up the bowel every four hours, and if after twenty-four hours flatus is not freely passing (either naturally or by the tube) an enema containing 1 ounce of oil of turpentine to a pint of hot water is injected high up, and, if

necessary, is repeated two or three times a day. Once the escape of flatus is satisfactorily established, the patients almost invariably do well. William Duncan (Lancet, July 7, 1900).

### ACUTE PELVIC SUPPURATIVE PROCESSES IN THE FEMALE.

**Treatment.**—Every suppurating pelvic collection that is accessible by Douglas's *cul-de-sac* is suited for posterior colpotomy and drainage.

The right kind of an operating-table, one in which an exaggerated Trendelenburg position can be obtained when the patient is in the lithotomy position, is necessary, and a table that fulfills this to perfection is the one invented by Pryor, of New York. This table is particularly useful in house-to-house operating.

After having seized the cervix with the two strong tenaculum forceps, one retractor is placed on the posterior vaginal wall, and the cervix is drawn upward toward the pubis until it cannot be drawn any farther by a gentle traction. With the stout curved scissors a transverse incision, varying from four to six centimetres in length, is made in the vaginal mucous membrane at the point where it joins the cervix. The mucosa is totally cut through with one cut of the scissors, and then introducing the finger through the incision the adhesions are rapidly broken down, the peritoneum is felt, and then guiding the scissors along the finger introduced into the wound the surgeon incises the peritoneum, keeping close to the posterior aspect of the uterus. In very pronounced cases the purulent collection may project so distinctly into the *cul-de-sac* that the abscess-pocket is opened at the same time that the incision into the mucous membrane is made. Occasionally considerable hemorrhage may



arise from the vaginal incision, and, if it is very considerable, it is better to immediately ligate the vessel or vessels giving rise to the blood before proceeding. After the sac has been incised the pus flows out freely, and then the cavity should be explored with the finger in order to ascertain if other pockets exist, and if so they should be broken down and emptied. If pus-tubes are found, and in these cases one makes sure by digital examination that the general peritoneal cavity is protected by the formation of adhesions, these pockets may be opened with the scissors and a large drainage-tube inserted in each tube with very happy results.

After the pocket or pockets have been thoroughly evacuated the cavity is carefully irrigated with a 1 to 2000 solution of cyanide of mercury or a 1 to 3000 solution of citrate of silver.

If the pocket is very small, a wick of iodoform gauze may be sufficient, but it is better practice to obtain a free drainage, and for this purpose two glass drainage-tubes or two red rubber drains should be introduced well up into the cavity. The vagina is next carefully packed with gauze, and an ordinary aseptic dressing is placed over the vulva and held in place by a T bandage. The next day the pocket is carefully cleaned out with peroxide injected into one drainage-tube, and after a couple of days the vaginal packing is removed and renewed. As the pocket retracts it forces the tubes downward, and after a few days usually they may be changed for ones of smaller calibre. C. G. Cumston (Boston Med. and Surg. Jour., July 19, 1900).

### ATROPHIC RHINITIS.

**Treatment.**—In atrophic rhinitis the complete removal of the scabs and the cleaning of the nares and pharynx con-

stitute an important part of the symptomatic treatment. Removal of the scabs cannot be trusted to the patient at home. The physician should see the cases at least every two days, and, better still, daily; all the scabs can only be removed by cotton dipped in some solution and carefully applied to loosen them. Every nook, furrow, and fold must be carefully searched. The best results are obtained from the use of an antiseptic and deodorizing solution applied twice daily, followed by the medicament one may choose, and, on alternate days, these cases should be carefully cleansed at the physician's office. Peroxide of hydrogen (Oakland Chemical Company) used as a spray, with water, 1-10 or 1-20, seems to soften and loosen the scabs well, and is both an antiseptic and deodorizer. After a complete spraying and a wait of a couple of minutes this should be washed out with a warm, normal, saline solution, either used in the nasal syringe or douche-bag. This spraying and washing can be repeated until about a quart of water is used.

Besides the use of saline solutions, it has been found useful in many cases, particularly when the odor is very offensive, to resort to a weak solution of the metallic chlorides, mercury bichloride being used in the strength of about 1 to 10,000, and zinc chloride in the strength of about 1 to 10,000.

Ichthyol is a remedy which seems to give the greatest relief when used locally in these cases of atrophic rhinitis. Some laryngologists use it in weak solutions, to 2 to 6 per cent.; some in stronger, 25 to 50 per cent., while others prefer the use of ichthyol pure. Personal habit is to use ichthyol in the treatment of atrophic rhinitis in three ways: The first, by means of a watery solution of 10- to 20-per cent. ichthyol applied on a large

pledget of cotton, and introduced into the nares upon the atrophied areas. As soon as the nares have been properly cleaned by any method considered desirable, the pledgets are placed in the nose and the patient is allowed to sit in the outer office for a period of fifteen to thirty minutes, after which the pledgets are removed and the oily sprays are used to finish the treatment.

In cases of atrophic rhinitis presenting ulceration, or localities in the nose where pus is particularly persistent, or in areas that are very much atrophied, ichthyol is used in full strength, rubbed directly into the parts. Ichthyol is used on cotton which is wound on a probe. This is gently rubbed for a period of four to five minutes directly into the atrophied mucous membrane.

The third method of using ichthyol is by means of salve: 40 grains of ichthyol and 5 grains of menthol, added to 1 ounce of vaselin. This is given to the patient to use at home after cleansing of the nostril, and also each night before retiring. The patient is directed to introduce into the nostril a piece as large as a good-sized bean, and then to snuff it back.

In selected cases of atrophic rhinitis, where the odor is particularly disagreeable or the stench intolerable, such as generally arises from some caries or denuded necrotic bone, orthochlorphenol in solutions with glycerin of the strength of 10 to 25 per cent. seems to work well. In 10-per-cent. solutions it is a very strong stimulant to the nasal mucous membrane. In solutions of 25 per cent. it is a decided cauterizant. It must be used with caution.

The treatment of the general condition is important.

The regions to which the scabs adhere usually present granulated surfaces which are quickest healed by applications of the

electric cautery, applied at a dull-red heat, and very superficially to the edges of the ulcerations.

If cases present any nasal obstruction, as in the form of adenoid vegetations at the vault of the pharynx, they should be removed. All septal irregularities should be removed, all bony enlargements should be cut away. H. Beaman Douglass (Post-graduate, June, 1900).

### BLOOD-COUNT IN SURGICAL DIAGNOSIS.

Blood-examinations, when properly and systematically made, are of inestimable importance to the surgeon as an aid in differential diagnosis. Leucocytosis is as certain to be found in cases of inflammation and suppuration as are rapid pulse and high temperature in pneumonia. It has been stated that the uselessness of blood-examinations is definitely proved, because occasionally an inflammatory condition exists without leucocytosis. Similarly, the practitioner might be expected to disregard the physical signs of pneumonia if the patient had a pulse of 80, a temperature of 98.4° F., and did not have rusty sputum. In cases of suppuration the increase of white blood-corpuscles is proportionate to the intensity of the inflammation. As the inflammation disappears, there is a gradual diminution of the leucocytes which may be present in subnormal amount at the time of convalescence. In obscure suppuration, and especially in pus-collections in the peritoneal cavity, blood-examination is of the greatest diagnostic value. In malignant disease leucocytosis is usually observed. The absence of leucocytosis in uncomplicated cases is, therefore, indicative of typhoid fever, tubercular peritonitis, gallstone or renal colic, intestinal obstruction, fecal impaction, neuralgia, etc. Appendicitis furnishes

the most marked example of the value of the blood-count as regards the decision to operate or not to operate. Cases of purely catarrhal appendicitis rarely present a leucocytosis. Given a case of a patient with pain in the region of McBurney's point and a stationary or increasing leucocytosis, that case is one for imperative, immediate surgical interference, whether other symptoms and signs be present or absent. A steadily increasing leucocytosis must always be considered as a bad sign and as demanding prompt operation. In septicæmia and pyæmia the leucocyte-count is about on a par with the count of appendicitis. Streptococci and staphylococci may frequently be found in blood-cultures in many forms of infection. In surgical diseases leucocytosis with a rise in temperature would exclude hysteria and mental worry. In osteomyelitis and all abscess-formations, pure cold abscess alone excepted, there is always a high leucocytosis. A. J. Coey (*Jour. Amer. Med. Assoc.*, July 14, 1900).

### CANCER OF THE UTERUS.

**Treatment.**—In cancer of the uterus, if there is no involvement of the broad ligaments or of the vagina, no matter if it cannot be proved that there is no dissemination, one should at least attempt a cure by total removal of the uterus. Total removal of cancerous uteri has given far better results with reference to complete cures without recurrence than has high amputation of the cervix or partial removal of the uterus itself. If the infection has extended beyond the cervix, or if one has reason to believe that the disease has reached the stage of infiltration, then high amputation, with application of the cautery, will prolong the patient's life and afford much relief. If

there is lymphatic infection, if there is extensive infiltration, the curettage of the diseased structures, with the application of Paquelin cautery, burning out all tissue possible, will render the patient far more comfortable, and possibly prolong life a few weeks or a few months. Much can be done toward the prevention of cancer of the uterus by the cure of cervical lacerations. That trachelorrhaphy will prevent cancer of the uterus there can be no doubt, as the primary seat of cancer of the uterus, probably in the greater majority of instances, is at the site or in the scars of old cervical tears.

Women passing the menopause should be constantly under the observation of a competent physician, one who is able to understand the meaning of symptoms referable to these organs, and who can or will, if necessary, have microscopical examinations made from time to time if the least suspicion arises. If this were done, no matter whether cancer be of bacterial origin or not, the lives of many women would be saved. Louis Frank (*Louisville Monthly Jour. of Med. and Surg.*, July, 1900).

### CARBOLIC GANGRENE.

That dilute solutions of carbolic acid applied to the extremities for a number of hours may produce gangrene and total destruction of the part is a fact of which the public at large and even many physicians are ignorant. Carbolic acid, once the favorite antiseptic among surgeons, and now discarded, has become a general household remedy for the treatment of slight wounds and bruises. During the last five years, at the Massachusetts General Hospital, 18 cases of gangrene have been seen from this cause. In a large proportion of these



cases amputation has been necessary. These, together with cases which can be found in the medical literature of various countries, make a total of 132 cases of gangrene from dilute solutions of carbolic acid. Doubtless many cases occur and are not recognized as due to carbolic acid. Usually the patient has come to the hospital with the story of having treated a cut, a bruise, or a felon with a solution of carbolic acid which has been purchased from an apothecary for the purpose. Occasionally the treatment has been suggested by a physician.

An aqueous solution of carbolic acid (1 to 5 per cent.), if applied to an extremity, as the fingers or toes, for a number of hours in the form of a moist dressing or poultice, may produce gangrene and total destruction of the part. This result is not from compression, but simply from the action of the carbolic acid.

Numerous cases have been reported in which 3-per-cent. and 2-per-cent. solutions have caused gangrene which has resulted in amputation.

Pénaire reports a case in a child of 10 years, who lost the second and third joints of the finger after twenty-four hours of exposure to a compress saturated with a 1-per-cent. solution of carbolic acid. It is therefore plain that any solution of carbolic acid between 1 and 5 per cent. is dangerous. Gangrene does not always follow the use of carbolic solutions in this manner. The result depends upon the strength of the carbolic solution, the manner of application, the length of time of application, and the power of resistance of the individual.

The injury is done without causing suffering. Strong carbolic acid, as Lévai has pointed out, forms a scab which resists penetration of the carbolic into the

deeper tissues, so that complete gangrene and destruction of an extremity are less likely to follow from the use of liquefied carbolic acid than from weak solutions.

The public must be taught to use some safer treatment. Moist dressings are often very soothing and helpful in slight injuries of the fingers or toes. A large part of the benefit to be derived from any form of moist dressing can be obtained by using boiled water on clean compresses. Safe household remedies for this purpose are tincture of hamamelis or solutions of borax or of boric acid.

It is evident that carbolic-acid solutions in any strength applied as a moist dressing are dangerous and ought never to be used. The fact that it is often used without bad results renders it the more dangerous. It is the duty of the medical profession to see that this needless destruction of fingers is stopped. Carbolic acid of any strength should be included in the list of those drugs which can only be procured by a physician's prescription. Whatever the strength, it should always be labeled as dangerous. F. B. Harrington (*Amer. Jour. Med. Sci.*, July, 1900).

## CARBON-MONOXIDE POISONING.

In examining the blood for carbon-monoxide hæmoglobin, especially in chronic cases, some form of spectroscope is indispensable. The method of examining may be briefly outlined as follows: The finger of the individual is pricked, as in other blood-examinations, and the drop of blood drawn into a pipette and mixed and diluted with distilled water. It is then placed in a test-tube, if using a hand-spectroscope, or more conveniently in a cell of special construction, if using a microspectroscope, and the ex-

amination begun. The absorption-bands are noted and ammonium sulphide or Stokes's reagent is then added to the liquid, and the mixture stirred thoroughly (with a thin glass rod or platinum wire) and slightly warmed. If carbon-monoxide hæmoglobin is present, it will be found that the normal reduction to hæmoglobin (reduced) does not take place, but the alpha and beta bands persist and are somewhat closer to the violet end of spectrum than those of oxyhæmoglobin. Other chemical tests have been used, but for delicacy the spectroscope surpasses them all.

It is of the utmost importance to detect this gas in the atmosphere, especially where the quantity is so small as not to be apparent by its odor, as in the instance of leakage of coal-gas or water-gas. The dangers of burning charcoal are too well known to give any caution regarding them.

The excellent method of Vogel may be attempted for the detection of carbon monoxide where its presence is suspected.

Fresh normal blood is diluted with distilled water until it is tinged faintly red, and about three to five cubic centimetres are placed in a flask of the capacity of one hundred to one hundred and fifty cubic centimetres. The flask is then shaken for a minute in the suspected atmosphere, and if carbon monoxide is present the diluted blood will have assumed a bright rose tint. On adding ammonium sulphide and making a spectroscopic examination, the two absorption-bands characteristic of normal blood will be replaced by the band of reduced hæmoglobin, but the two bands of carbon-monoxide hæmoglobin will persist unchanged. The delicacy of this test may be increased by using a larger flask. Thomas J. Yarrow, Jr. (N. Y. Med. Jour., Apr. 7, 1900).

## CERUMEN IN EXTERNAL AUDITORY CANAL.

The ear-speculum and the forehead-mirror are absolutely necessary to make a diagnosis.

A patient who complains of deafness coming on suddenly, fullness in the ear, dizziness, perhaps of autophony, who hears the tuning-fork applied to the middle of the forehead more markedly on the deaf side than on the normal, has, in all probability, an occluding plug in the external auditory meatus; the speculum will reveal it. In some cases the plug is so near the external meatus that it is visible without the aid of the speculum. Samuel Kohn (Medical Record, June 23, 1900).

## CHOREA TREATED WITH ARSENIC.

In the successful employment of arsenic in chorea it is now generally agreed that large doses must be administered and if the initial dose is small it may be slowly or rapidly increased to the maximum. It is now recognized that a large dose of arsenic for a short time is better borne than a smaller dose for a long time. De Renzi (Amer. Jour. of Med. Sciences, May, '96) has advised that 20 minims of the liquor arsenicalis should be given at first in the case of children and double that amount in the case of adults. These amounts are probably a little excessive as initial doses, but, on the whole, children stand arsenic well. In all cases much better results are obtained if the patient is confined strictly to bed. A. H. Carter (Lancet, July 21, 1900).

## CYSTITIS, TUBERCULOUS.

In the treatment of tuberculous cystitis an important place should be given to general tonic treatment. Creasote, when given hypodermically or by rectum, is of value. In order to relieve the pain

rectal suppositories and hypogastric and perineal applications of a sedative nature may be used, while counter-irritation to the hypogastrium and perineum should be tried. In applying intravesical medication, distension of the bladder by injections should be carefully avoided, and the milder solutions, such as boric acid and sterile water, are to be preferred. Concentrated solutions may be applied locally to the neck of the bladder and prostatic urethra. Iodoform may be used in emulsion thrown into the bladder after draining off residual urine, which must be done periodically if there is incomplete retention. Cystotomy and exploration are indicated if these measures are futile and if the pain continues. E. Desnos (*Jour. des Pract.*, Apr. 14, 1900).

### DIABETES MELLITUS.

**Treatment.**—In diet, and in diet alone, is possessed a trustworthy means of controlling the tendency to hyperglycæmia; yet in the management of individual cases considerable assistance may be derived from drugs. A grain of extract of opium at bed-time will often prevent the frequent rising to pass water by which the thread of sleep is broken so as not to be easily resumed, and the beneficial effect of better nights is clearly shown by the improvement in the patient's general health. Bromide of potassium stands next to opium in allaying the nervous irritability which is frequently present to a distressing degree. Alkalies—in the form of alkaline mineral waters, salicylate of soda, or citrate of potash—are often useful by counteracting the diminished alkalinity of the blood, which is not without its dangers. If there is any reason to fear coma, a much more energetic use of alkalies should be prescribed. In these circumstances an hypodermic injection

of strychnine must be given, and  $\frac{1}{2}$  ounce of sodæ bicarb. should be administered as an enema in hot water, and repeated every hour until improvement takes place. Robert Saundby (*Practitioner*, July, 1900).

### DIABETES MELLITUS, OCULAR MANIFESTATIONS IN.

Ocular lesions are more frequently found in chronic cases of diabetes mellitus with mild general disturbance. Paralysis of the extra-ocular muscles in both mild and severe cases of diabetes, and in persons unaware of the existence of any serious disorder, is not uncommon. Any of the extra-ocular muscles may be involved. Paralysis of accommodation is, perhaps, the most common of the ocular manifestations of diabetes, and occurs quite early. The paralysis is often complete; so that the patients will observe perhaps only increased difficulty in reading. Some authors claim that there is a true diabetic cataract, while others contend that the changes in the lens are no more common in diabetics than in others of the same age. But the unexplained occurrence of juvenile cataract requires an examination of the urine in addition to the physical examination. Retinal hæmorrhages, with or without other retinal changes, are always suggestive of diabetes, particularly the small, punctate hæmorrhages. They are always associated with conjunctival hæmorrhages. Retinal changes are always present in a case of diabetes which has existed more than ten or twelve years. While this is always an unfavorable symptom, it does not necessarily indicate an immediate termination of the disease. Iritis of a severe type is often met with in diabetes. L. A. W. Allen (Medical Record, July 21, 1900).



**DYSENTERY, TROPICAL.**

**Pathology.**—The dysentery which occurs in and about Manila may be divided into acute and chronic. The acute form may terminate fatally in forty-eight to seventy-two hours, it may be followed by recovery or become chronic. The usual chronic form agrees with the so-called amœbic disease; the chronic form supervening on the acute variety has a different pathological anatomy from the amœbic disease, and amœbæ are not found, or, at least, so exceptionally that they can have no causal relation to the disease. The two forms are also distinguished by their complications. Chronic amœbic dysentery is commonly followed by liver-abscess, while the chronic form following the acute disease, as well as the acute disease itself, is very rarely attended by hepatic complications. The acute dysenteries are not caused by amœbæ. On the other hand, bacteriological study of the dejecta shows the presence of a bacillus which is absent from normal fæces, and is not found in the intestinal contents of persons suffering from diseases other than dysentery in the same locality. This organism has close affinities with the bacillus typhosus, from which, however, it can be distinguished by its action on litmus-milk, its slight motility and tendency to become immobile in artificial cultures, and the serum-reaction. In the very acute cases it may be the predominating organism; as the cases become older the numbers of bacilli diminish until in the chronic form it may be very difficult to find any, or it may escape detection. This bacillus agglutinates with the blood-serum of dysentery. It has yet to be determined whether the bacillus, which is a pathogenic species, occurs with regularity in the acute forms, and can be regarded as the cause of that affection. There is no doubt that this bacillus is

identical with the organism obtained by Shiga from the endemic dysentery of Japan, and regarded by him as the cause of the disease. A similar bacillus has been found in dysentery by Baker and Pasini, and called the pseudotyphoid bacillus. S. Flexner (Brit. Med. Jour., July 7, 1900).

**EAR VERTIGO, CHRONIC.**

Chronic ear vertigo is chronologically the latest symptom, or lesion, of chronic catarrhal otitis media, being always preceded by profound deafness and tinnitus. It is due to undue impaction of the stapes in the oval window, as well as to stiffening of the round-window membrane, from the catarrhal condition of the drum-cavity. In a normal ear any inward pressure of the stapes upon the labyrinth fluid is compensated by a corresponding outward movement of the membrane of the round window toward the tympanic cavity. Any undue pressure from within the labyrinth by influx of perilymph or endolymph from the cranial cavity is compensated by a corresponding outward movement of the stapes, as well as of the round-window membrane toward the drum-cavity. All or any of these compensations being interfered with, intralabyrinthine pressure is increased, the ampullar nerves unduly compressed, and reflex phenomena evoked which are termed ear vertigo. As these altered conditions of intralabyrinthine pressure are not constant, but vary with the health of the patient and the state of the drum-cavity, chronic ear vertigo is paroxysmal in nature. As retraction of the chain of ossicles and consequent impaction of the stapes in the oval window, in chronic catarrh of the middle ear, play the greatest part in the production of these vertiginous phenomena, Burnett proposes to liberate the stapes from the superposed incus by re-

moval of the latter, through an incision in the upper posterior quadrant of the membrana tympani of the etherized patient. This he has done in twenty-seven cases, giving entire relief from vertigo in every instance. C. H. Burnett (*The Laryngoscope*, July, 1900).

## ERYSIPELAS.

**Treatment.**—Isolation of a case of erysipelas is a necessity. Patients when isolated can also be kept in a low temperature. Plenty of fresh air is needed, and open windows and doors will work no harm. The temperature should not be over sixty at any time. The closest attention must be given to the diet. Nourishment from the very first must be given regularly, and as often as every two hours. The food should be concentrated, and easy of digestion and assimilation. With a high temperature liquids are preferable.

There is no routine treatment in the way of internal medication that should be adopted with the expectation that it will cut short the process. Numerous reports of the treatment by tincture of the chloride of iron alone have seemed to show that it exerted a favorable impression upon the affection, and yet these cases only show a moderate gain in percentage over those treated by various remedies, taking the average rate of mortality of all cases of the disease. An objection to the use of iron in the doses that are given is the liability that exists of interfering with the digestion, and this objection holds good regarding quinine and hyposulphite of soda. Personal treatment internally would be, then, symptomatic, and nothing for its influence in controlling the course of the disease. The high temperature is best combated by cold, and preferably by its application to the diseased surface. A small surface will not furnish room for refrigeration;

so, while the ice-bag may be applied, it will be necessary to use cold sponging of the body as well. Cases previously debilitated may require stimulation, and strychnine and black coffee are preferred to the alcoholics.

Locally, a cold calamin lotion, to which has been added a little carbolic acid, applied frequently until a deposit of the calamin covers the surface, will be of advantage. An ice-bag upon a patch of erysipelas relieves the subjective symptoms, while at the same time exerting a curative effect upon the process by interfering with the growth of the cocci. It causes no discomfort, and may be kept almost constantly upon the part. A lanolin mixture of ichthyol has seemed to be of benefit.

The swollen eyelids should be opened often, and the eyes washed with a boric-acid solution. The eyes must be seen even if it is necessary to relieve the swelling of the lids by the knife.

The ear also requires close watching in facial erysipelas. One of the complications that is liable to occur, but fortunately does not occur often, is oedema of the glottis. Prompt treatment here is necessary. A. E. Carrier (*Physician and Surgeon*, June, 1900).

## FACE PRESENTATIONS. MANAGEMENT OF.

"Version by the vertex within the pelvis"—a direct conversion, by flexion, of a face presentation into a normal vertex position—may be accomplished as follows:—

The patient being under full chloroform anesthesia the hand is passed carefully in the vulva, with the outside hand seizing the body of the child. In the entire absence of uterine contraction the chest is pushed as much away from the pelvic brim as possible from the point

toward which the chin is pointing in the direction of the occiput; that is, pushing obliquely from behind forward. At the same time the fingers of the vaginal hand are pushed up alongside of the head in one or other of the oblique diameters of the pelvis, so that they can reach the suboccipital portion of the head. The thumb at the moment steadies the brow, and, with a slight lifting motion imparted to the whole head, it is caused to rotate on its axis as described, the chin passing upward above the sacro-ischiatic notch as the occiput is drawn down below the pubis. Flexion may be considerably hastened by pressing down the occiput by the outside hand as soon as the face is dislodged from its wrong position. Malcolm McLean (*Med. News*, July 28, 1900).

### HÆMORRHAGE INTO THE ORBIT.

Hæmorrhage into the orbit is a sign of fracture of the anterior fossa of the base of the skull, but it is also commonly met with in head-injuries as an ordinary black eye or subconjunctival hæmorrhage. But the distinction between simple subconjunctival hæmorrhage and that due to fracture of the roof of the orbit is that the hæmorrhage occurring as the result of fracture does not make its appearance until some little time afterward, and, further, that the blood comes from behind forward; and, therefore, if the lid is lifted, no ring of white sclerotic will be seen behind the blood, but one may see a ring of white sclerotic in front of it. Now, if the bleeding is dependent upon rupture of the subconjunctival vessels, one will very probably see a band of white sclerotic behind, showing quite clearly that the bleeding did not come from behind forward from the skull. At the same time it must be remembered that a large subconjunctival hæmorrhage will

extend far back into the orbit. Charles Stenham (*Clinical Jour.*, July 18, 1900).

### HYPODERMOCLYSIS.

The best place for introducing salt solution under the skin is in the lateral lumbar regions. Here there is no interference with respiration, no pains on movements of the limbs, and no interference with ordinary muscular movements. Hypodermoclysis would seem to be indicated in some cases after the administration of antitoxin. Experimentally, where large amounts of antistreptococcic serum cause the development of certain reactive symptoms local and otherwise in animals, the administration of salt solution hypodermically seems to prevent the development of symptoms. Antitoxic sera are often followed by the development of renal congestion. This congestion does not occur, however, if twice the amount of normal saline solution is given hypodermically, just after the injection of the antitoxins. Where diphtheria and scarlet fever are running their course together, or where diphtheria follows scarlet fever and there seems to exist a tendency to nephritis, antitoxin injection should be followed by hypodermics of saline solution. Anasarca does not contra-indicate the use of hypodermoclysis. It will usually be easy to find some portion of the body, in which there is no fluid in the cellular tissues, reasonably suitable for hypodermoclysis. An increased flow of urine occurs after even very small amounts of saline injected hypodermically; so that this method of treatment, far from adding to the anasarca, will decrease it. R. C. Kemp (*Med. News*, July 28, 1900).

### HYSTERIA.

**Treatment.** — If a massive culture of the colon bacillus, the original colony of which is taken from a non-infectious



source, be administered to a case of hysteria—that is to say, of the active or convulsive type—latent or post-hysterical phenomena, such as paralysis being excluded, the symptoms disappear in from twenty-four to forty-eight hours and the patient is restored to health so far as the hysteria is concerned; debility or neurasthenic phenomena may remain for an indefinite period.

The uniformity with which this occurs justifies the placing of this remedy in the class of specifics; indeed, the action of quinine in malarial fever is no surer or more uniform in its results.

From the stomach or intestinal mucus of the hog, from the dejections of the same animal, or that from the barnyard fowls, a colony is isolated by means of the agar plates; this is removed to an agar test-tube, from which future massive cultures may be made. The latter may be made on potato, but with less trouble on the surface of agar in Petri dishes. When the growth is well developed it may be scraped off, suspended in water, or mixed with some indifferent substance, as starch, and administered in capsules.

The well-matured growth on one Petri dish may serve to make from three to six doses. This given three times a day will prove sufficient.

The growth should be fresh, for if perchance the bacteria be dead, having been kept a number of weeks, no result will be obtained.

Results may confidently be expected in hysteria, but none in neurasthenia. F. Walter (*N. Y. Med. Jour.*, July 21, 1900).

## INFANTS, ARTIFICIAL FEEDING OF.

As evidence that the use of preservatives in milk is not infrequent it is only necessary to refer to the annual reports of the chemists of the health departments of large cities. The preservatives

commonly employed contain boric acid and formaldehyde, and these substances can be detected in milk when present in such small amounts as 1 part in 50,000 parts of milk, amounts which are practically without effect in preserving milk in summer.

Another difficulty in the artificial feeding of infants is the danger of over-feeding, which Baginsky has shown leads to one of two results. The children absorb and assimilate a large part of the excess, become unusually fat, without manifesting a corresponding increased development of the organs. These children are bloated, abnormally heavy, yet soft and flabby, generally with poorly developed osseous system, and tardy development of the teeth. Many of these children present a lymphatic condition and suffer from cutaneous eruptions, glandular swellings, nervous conditions, and not infrequently succumb suddenly in asphyxia, or to intercurrent contagious diseases. The second group of children do not assimilate the excess. They secrete large quantities of urine, while the feces are hard and composed largely of solid coagula; they are pale, and, in spite of the large amount of nourishment taken, do not gain in weight. The abdomen is swollen, and there is imperfect development of the teeth and bones.

In infants fed on condensed milk, on farinaceous foods, and on some of the artificial foods on the market, it is not unusual to see evidences of rickets and of scurvy, because of the absence of antiscorbutic substances from the food.

The continued high death-rate from gastro-intestinal diseases among infants under one year of age should cause one to put forth his best efforts to combat this scourge. All known preventive measures should be employed, such as sanitary inspection and control of the pro-

duction and sale of milk intended for infant-feeding; the pasteurization of all milk used for infant-feeding by heating to 167° F. for ten minutes, and then rapidly cooling it and preserving it in the ice-chest until used; the rigid exclusion of all adulterants of whatever nature; gratuitous supply of pasteurized milk, and ice to the poor of the large cities; the careful instruction of the laity in the process of rational infant-feeding, especially of the great danger of feeding infants under eighteen months to two years of age on anything but properly prepared milk without the consent and direction of the physician; the inculcation of the idea that the gastro-intestinal diseases of infants are frequently communicable to other infants brought into contact with such cases. Some of these provisions are beyond the province of the individual physician and involve the police powers of the State and municipal health authorities, and without their aid and co-operation the individual physician cannot always be certain that all such preventive measures are being enforced. D. H. Bergey (University Med. Mag., July, 1900).

### INFANTS, CONDITION OF STOOLS OF.

Much may be learned by a careful inspection of the stools of infants with reference to increasing or diminishing the various kinds of food. The normal infant stool is smooth, yellow, homogeneous, and about the consistency of thin mush. The following may be considered abnormal types:—

1. **GREEN STOOLS.**—Stools can only be considered green when that condition is evident immediately upon their passage. They are due to a fermentation, which is doubtless the result of bacterial action. All stools become green a certain time

after passage, caused by oxidation of the air.

2. **CURDY STOOLS.**—Curdy lumps may be produced by undigested casein or fat. The former are hard and yellowish, while the latter are soft and smooth, like butter.

3. **SLIMY STOOLS.**—These are the result of catarrhal inflammation. When the mucus is mixed with the faecal matter, the irritation is high up in the bowel, but when flakes or masses of mucus are passed, the trouble is near the outlet.

4. **YELLOW, WATERY STOOLS.**—These are seen in depressed nervous conditions, especially in the hot days of summer, when the bowel is relaxed, and the inhibitory fibres of the splanchnic nerve do not act to advantage.

5. **VERY FOUL STOOLS.**—These are caused by decomposition of the albuminoid principles of the food.

6. **PROFUSE, COLORLESS, WATERY STOOLS,** with little faecal matter, are doubtless caused by an infective germ, akin to that of Asiatic cholera. This is known as cholera infantum.

It is rare to see one of these types by itself. With the exception of the last, they may be seen in all combinations. H. D. Chapin (Jour. Amer. Med. Assoc., July 14, 1900).

### MERCURIAL PTYALISM FROM INTRA-UTERINE DOUCHING.

An interesting case is reported of a woman who was confined March 18th. When she was seen first—about ten days later—there was evidence of septicæmia, and she was accordingly given a douche consisting of one gallon of a 1 to 4000 solution of mercury bichloride. When seen two or three days later there was excessive ptyalism, with swelling of the gums. Mercury had not been used in any other form, and there had been perfect

drainage. T. R. Mansfield (Jour. Amer. Med. Assoc., July 14, 1900).

### MERCUROL INJECTIONS IN GONORRHOEA.

The results obtained at the Post-graduate Hospital from the use of mercuriol may be regarded as very satisfactory. The treatment with mercuriol was begun with solutions of the very modest strength of  $\frac{1}{20}$  of 1 per cent. Having gained favorable results with these weak solutions, their strength was gradually increased, until now a 2-per-cent. solution is prescribed in all cases of urethritis which are not very acute.

The first thing to be said in favor of mercuriol is that when used with ordinary care and in not too strong solutions, it is a perfectly safe remedy. Only in a very small proportion of the cases treated in the clinic have complaints been made that the injection causes any disagreeable sensations. At present there is a total of 51 names on the books of the clinic devoted to the treatment of gonorrhoea with mercuriol. Of this number 26 have been put on the books within three weeks and may be dealt with separately.

Of the other 25 cases, 7 failed to continue treatment long enough to give the remedy a fair chance; 8 may be said to be absolutely cured, and 10 practically or nearly cured. This is to be regarded as very satisfactory. Of the 26 March cases, in all of which the treatment has been the uniform use of the 2-per-cent. solution (10 grains to the ounce) it may be said that they promise to give even better results. In no case can any untoward symptoms be said to have developed.

In all these cases the discharges have been examined from time to time for the gonococcus, and it is surprising in how short a time it was found to disappear.

Ramón Guitéras (Phila. Med. Jour., May 19, 1900).

### MUMPS IN PNEUMONIA.

At certain times there occurs almost simultaneously a considerable number of cases of forms of disease or injury which are, in general, quite rare. This has been recently illustrated by the publication by several observers of reports of the development of mumps in the course of pneumonia.

In a personal case the following treatment was adopted: On each side, successively, a fairly-thick compress of surgical gauze saturated with boroglyceride was applied and covered with a layer of paraffin paper and just enough bandage to keep it in place. The relief of pain and the subsidence of swelling which promptly followed the application is attributed to the boroglyceride. This is an application of the greatest utility in a variety of inflammatory swellings, and especially in the case of incipient boils and carbuncles. C. W. Dulles (Medical Record, July 14, 1900).

### NERVOUS DISEASES, EFFECTS OF SEASON UPON THE PRODUCTION OF.

The effect of season upon the production of nervous disorders is well recognized, and has been the subject of much inquiry and investigation. Not only do the changing seasons encourage and nurture nerve-disturbances, but the changing barometric pressure exerts its influence also.

Some of the nervous diseases more or less susceptible to seasonal influences are arranged alphabetically, giving the months of greatest occurrence. A classification of these diseases, according to the season, is as follows: Angioneurotic œdema, winter months; apoplexy, cere-



bral, winter months; Bell's palsy, November, December, January, February, and June and July; beriberi, summer months; chorea, March, April, May, June; erythromelalgia, summer months; epilepsy, all seasons; laryngismus stridulus, winter and spring months; locomotor ataxia, winter months; meningitis, epidemic cerebro-spinal, winter and spring months, seldom autumn, never summer; meningitis, tuberculous, winter and spring months; migraine, winter months; muscular atrophy (Duchenne-Aran), winter and spring months; myelitis, acute, winter months; myxœdema, winter months; neuralgias, late autumn and winter months; neurasthenia, spring and summer months; neuritis, spring and late autumn; paralysis agitans, spring and winter months; poliomyelitis, acute anterior, summer months; Raynaud's disease, winter months; tetanus, August, especially July to October; tetany, January to May. W. C. Krauss (*Buffalo Med. Jour.*, July, 1900).

#### OPIUM HABIT, TREATMENT OF, BY THE BROMIDE METHOD.

The method of administration which has gradually developed as the result of the experience of Macleod and personal observation may be formulated somewhat as follows: The drug should be given only in the day-time. One hundred and twenty grains of sodium bromide in half a tumbler of water, every two hours, until an ounce is given in the first day. The second day a smaller amount is given in the same way, and this may be sufficient, or it may be necessary to continue the doses in the same way on the third day. Macleod says the safe rule is to cease the administration of the bromide after twenty-four hours, when drowsiness is so profound that the patient cannot be roused, or, when

aroused, is incoherent. If the sleep continues or becomes deeper, no more bromide will be needed. It is to be remembered that the bromide acts in a cumulative manner. After the second or third day, when the bromide is withdrawn, the drowsiness, in some cases actual coma, tends distinctly to deepen for forty-eight hours, so that the fully developed sleep presents a rather alarming condition to anyone not familiar with it. For two or three days there is difficulty in feeding the patients, and swallowing is sometimes impossible, so that rectal alimentation is required.

During this treatment there is apparently a tendency to aspiration pneumonia, so that feeding by the mouth becomes doubly dangerous. Any septic condition in the pharynx or in the antra communicating with the mouth should contra-indicate the treatment. The poisonous effect of the bromide falls apparently upon the respiratory and cardiac centres; so that a weak heart or impaired pulmonary conditions would furnish reasons against the method. From a case of nephritis which terminated fatally, it is strongly suggested that the bromide of sodium in large quantities acts harmfully upon the kidneys, if diseased, and therefore any degree of nephritis should be a contra-indication to this line of treatment.

Three deaths occurring in twelve cases, although in each instance attributable only remotely to the bromide, and occurring where the bromide has been used in extraordinary doses, doses that can no longer be advised, show that the plan of treatment is very far from being simple and without danger.

However, as compared with the difficulties of the ordinary methods that are pursued in correcting the addiction to morphine, it seems of very definite value

in well-selected cases. Archibald Church (N. Y. Med. Jour., June 9, 1900).

### PHENACETIN, PHYSIOLOGICAL ACTION OF.

A study of the physiological action of phenacetin gives the following conclusions:—

1. The moderate dose of phenacetin is without any distinct action on any vital organ.

2. Large doses lessen reflexes by a direct action on the spinal cord.

3. Doses of 0.5 G. per kilo of body-weight (equivalent to a little less than 1 ounce for a 150-pound man) kill by arrest of respiration.

4. Doses even up to 0.5 G. per kilo had no distinct effect on the circulation. H. C. Wood (Jr.) and H. B. Wood (Univ. Med. Mag., July, 1900).

### POST-PARTUM HÆMORRHAGE.

**Treatment.**—Post-partum hæmorrhage is very largely a preventable accident. A routine practice of placing the hand on the abdomen over the uterus from the time the child is born to the expulsion of the placenta should be observed; and after the expulsion of the placenta the uterus should be watched in the same manner for at least an hour. Any tendency to abnormal relaxation should be combated by friction, or, if need be, by more active manipulations. When a tendency to hæmorrhage is suspected, ergot, either by mouth or hypodermically, should be given. In personal practice ergotin hypodermically is preferred. The old-time abdominal binder may also be used to maintain retraction. A towel folded so as to form a compress may be placed beneath the binder, not over the uterine mass, but on either side and another immediately above it.

For the arrest of uterine hæmorrhage, the first and paramount indication is to

secure good, strong uterine contractions. The patient should be placed upon her back, the pillow removed from beneath her head, and the foot of the bed elevated. There is no better way than to place a common kitchen-chair under it, having the frame-work of the bed upon the seat of the chair. The hand should be swept over the abdominal wall, the uterus grasped, and friction made in a circular direction. As soon as the definite outline of the uterus can be made out, the fingers should be pressed deeply into the abdominal wall behind the uterus, while the thumb rests over its anterior surface. The fundus should then be grasped firmly. This will tend to expel the clots and at the same time control the hæmorrhage. In such conditions one should never hesitate to introduce the whole hand into the vagina and uterus and thoroughly remove all clots and retained portions of the placenta or membranes. Should this not control the hæmorrhage, the hand is to be closed in the uterus, and, together with the external hand, firm compression is made of the organ.

The abdominal aorta may be compressed as a temporary means. Stimulation may be demanded, when whisky or sulphuric ether may be given hypodermically. Strychnine may be used. The hot douche is a very efficient remedy. The external genitals should be smeared with vaselin to protect them from the effect of the hot water. The temperature of water should be 120° F., but should not exceed 125° F., lest it paralyze the uterine muscle; neither should it be below 115° F., as lukewarm water favors hæmorrhage. The temperature of the water should be measured with a bath-thermometer. Penrose, of Philadelphia, recommends application of vinegar to the uterine cavity.

When these measures fail to control

the hæmorrhage, nothing will act better or more promptly than packing the uterus with iodoform gauze. The uterus should be seized with forceps and brought down to the vulvar orifice while the fundus is steadied by an assistant. The uterine cavity is then packed or tamponed with long strips of iodoform gauze. This gauze may be removed in twenty-four hours. For the resulting anæmia, normal salt solution may be used subcutaneously or by rectal injection. An Esmarch bandage may be applied to the extremities (never more than two at a time) and left on for twenty minutes at a time. E. T. Abrams (Physician and Surgeon, June, 1900).

### PREGNANCY, CARE DURING.

During the last months of pregnancy the urine of every patient should be examined carefully. The pelvimeter is fallacious, and a practiced sense of touch and an experienced judgment as to the relative sizes of fœtus and pelvis are much more important and much better guides. Walking cannot be too much insisted upon for the pregnant woman. During the latter months, especially, when the disinclination to walk is very strong on the part of most women, the taking of long daily walks must be insisted upon. Francis Stewart (Med. News, June 30, 1900).

### PUBLIC HYGIENE.

The modern sanitarian bases his opinion as to the character of waters upon the evidence obtained through chemical and bacteriological analyses, and through personal inspection of the sources of the water under consideration, and often information of much greater value is obtained by intelligent optical inspection than by either or both of the precise methods of analysis.

About half a century ago London, de-

pendent for its supply of water upon sources not above suspicion, attempted to rob these waters of their impurities. In this attempt an effort was made to imitate Nature by permitting the impure water to percolate through beds of sand, just as one sees surface-waters percolating through the soil to reappear in the form of pure springs. The effort proved successful, and with it began not only a general endeavor to render contaminated waters potable by this and analogous processes, but there was awakened a widespread interest in the study of the phenomena that are involved in the process.

At first the results of this process of purification were regarded as due solely to mechanical and chemical processes, but as trustworthy bacteriological methods became available it was soon made manifest that the phenomenon was at bottom biological, that in all its important aspects it was referable to the activities of microscopical vegetables, and that it is an accumulation of these living minute plants upon the surface of the grains of sand or soil that forms the real filter that accomplishes the desired purification.

It is of greatest public-health importance to remember that the death-rates from water-borne diseases have been uniformly and conspicuously reduced in all localities that have subjected their polluted water-supplies to this method of purification. In consequence it is today regarded as one of the triumphs of modern practical hygiene.

An important detail that should never be lost sight of, however, in connection with this procedure is that the success of the method from the sanitary stand-point is universally in proportion to the pollution of the stream; that is, the greater the pollution the less satisfactory the results of filtration.



Through the proper drainage of the soil and sanitary control of public water-supplies the death-rates from water-borne diseases have steadily fallen. In illustration of this it is only necessary to mention that in thirty years the death-rate from typhoid fever in Munich fell from 291 to 10 per 100,000 of population, approximately 96 per cent. This resulted from the establishment of a complete system of drainage and the introduction of an unpolluted water-supply. In less than a year after the new intake had been finished at Chicago there was a reduction in the death-rate from typhoid fever in the district supplied of something like 60 per cent. Within less than a year after the water supplied to Lawrence, Mass., was subjected to filtration there was a reduction in the death-rate from this fever of something over 57 per cent. In the few months that have passed since the introduction of filtration in Albany, N. Y., there has been a reduction in the typhoid death-rate of about 70 per cent. R. C. Abbott (University Med. Mag., July, 1900).

### RUMINATION.

In every case of rumination peripheral irritation of the vagus nerve should be looked for, and should be corrected by both local and general treatment. Such irritation occurs in gastro-intestinal diseases; diseases of the liver, kidneys, and pelvic organs; and is not infrequently dependent upon splanchnic congestion. A non-recognition of these important points explains why Korner's method of treatment with small pieces of ice is frequently ineffectual; the same is true of the morphine-muriate method of Rossur. Posiggen, Boas, and Einhorn have frequently given relief by suggestion, while Hemmeter's method of exclusive rectal feeding has often been followed by good

results. It is obvious that suggestion is of importance in controlling a subconscious state that has developed into a "habit." Fenton B. Turek (Medicine, June, 1900).

### SPONDYLOSIS, RHIZOMELIC.

The symptoms of osteoarthritis of the spine and hip-joints, rhizomelic spondylosis, may be briefly summarized as follows: Pain and tenderness are variable, and seem to bear little relation to the severity of the case. Pain is apt to be more constant and more severe at the onset of the disease, and is usually aggravated by active or passive motion. Tenderness can be detected at times by pressure over the affected areas, more particularly over the sacro-iliac synchondroses.

The gait and attitude vary according to the seat and extent of the disease. One attitude has been described as Z-shaped, the prominence of the kyphotic curve representing one angle of the letter Z, while the knees represent the other angle. The "scissor" gait is characteristic of those cases in which ankylosis takes place with the thighs in a position of adduction.

The lumbar and sacral segments of the spinal column are almost invariably the first to be affected. The process then slowly ascends the spine, until, in the course of time, the whole vertebral column becomes involved. Several deformities of the spine have been noted, and of these the most constant is the kyphotic curve in the cervical region. The kyphosis of osteoarthritis differs from that of Pott's disease: in the latter there is the familiar angular projection, while in the former there is practically no projection; the spinous processes describing a curve with its concavity directed forward, the apex of which is much in advance of the vertical axis of the dorsal and lumbar

segments. In addition to the kyphosis, cases have been met with in which the normal lumbar lordosis was obliterated. In those cases in which the process is unilateral, involving the ligaments on but one side, there may be a scoliosis.

The hip-joint is almost always involved, though not always exclusively; less frequently the shoulder-joint is attacked, and in exceptional cases the knee. The tendency to ankylosis of the ribs with the vertebra is among the articular complications. The tendency in all cases is toward ankylosis, but the degree to which the joint becomes involved may be said to vary from transitory pain to absolute ankylosis and marked deformity.

Apart from atrophy attributed both to disuse and to pressure upon the spinal nerves, there is no constant muscular lesion. The atrophy in some cases is very pronounced, however, giving rise to one of the features characteristic of the disease, namely: flattening of the buttocks.

Apart from the lesions commonly associated with osteoarthritis, there may be formation of exostoses in the vertebræ, especially in the region of the sacro-iliac articulation. They have been found on both the anterior and posterior aspects of the bodies of the vertebræ. Among rarer osseous manifestations are both atrophic and hypertrophic changes.

If there be any lesions of the spinal nerves giving rise to nervous phenomena, these lesions are unquestionably not primary. Their existence must be attributed to pressure upon the nerve-roots, usually at their exit from the vertebral foramina.

The nervous phenomena vary according to whether the motor or sensory root is involved, and according to the number of roots affected. Tremors in the hands and legs, paralysis, increased excitability of the muscles (motor disturbances),

paræsthesia, hyperæsthesia, anæsthesia, itching (sensory disturbances), and exaggeration or depression of the reflexes, either on one or both sides, are some of the nervous phenomena. Perhaps the most constant subjective symptom, resulting from pressure upon the spinal nerves, is neuralgia, the pain being referred to the course of the intercostal nerves or to the nerves of the brachial or lumbar plexus.

If cerebral symptoms, such as headache and vertigo, are present, they are attributed to interference with the circulation caused by compression upon the vertebral artery (Braun).

The interference with thoracic respiration is very characteristic. Respiration in these cases must be altogether diaphragmatic. Charles H. Frazier (Univ. Med. Mag., July, 1900).

### SYPHILITIC MANIFESTATIONS IN THE UVEAL TRACT.

No constitutional disease manifests itself so frequently by producing eye symptoms as does syphilis.

During the past year 70 cases of this disease exhibiting eye symptoms have been personally treated in private practice, and of these 70 cases the uveal tract (iris, ciliary body, and choroid) was involved 29 times, or in 41.4 per cent. of the total number.

In 21 of these 29 cases the diseased process was confined to the iris and ciliary body, and in 8 the choroid was primarily involved.

Syphilitic iritis may be plastic, serous, papular, or gummatous in character.

Personal experience accords entirely with that of Schmidt-Rimpler, that in iritis with the formation of nodules, as a rule, true gummata were not present, but that these can appear during the later stages of syphilis, and that the tendency,

with the nodules existing in the iris during the early stages of syphilis, is not destructive in character; also, that these nodules are analogous to the syphilitic condylomata and skin papules seen during the secondary stages of syphilis.

Not all cases of iritis occurring in individuals who have become infected with syphilis are cases of syphilitic iritis, but all cases of iritis occurring in syphilitics which respond to antisymphilitic treatment are thought to be syphilitic in nature, even though no distinctive syphilitic features—as condylomata, papules, or gummata—are visible in the iris.

The symptoms of plastic and serous iritis when due to syphilis vary little from the symptoms of these varieties of iritis when due to other causes.

Syphilitic cyclitis may be plastic, serous, or gummatous in nature, and is almost invariably associated with iritis. Simple cyclitis without iritis occurs but seldom, and then only in the chronic form (Fuchs). The symptoms usually met with are pain, diminished vision, due to deposits upon the posterior surface of the cornea, precipitates in the vitreous, and exudations between the iris and lens-capsule. Ciliary injection is nearly always present, and the aqueous is turbid.

Cyclitis is invariably a dangerous disease, and usually results in loss of vision.

The choroid can become secondarily involved in syphilitic iritis, or it can be diseased independent of inflammation in this structure; this latter is by no means uncommon.

Personal observation has been that syphilitic choroiditis is always exudative in character, but Swanzy remarks that in infancy purulent choroiditis may be caused by, or associated with, inherited syphilis. The varieties of exudative choroiditis usually met with in syphilis are the disseminated, the central, and syph-

ilitic choroiditis. Fuchs speaks of an anterior choroiditis in which the exudative spots are deposited at the periphery of the choroid, and which is sometimes combined with choroiditis surrounding the papilla. P. T. Vaughan (N. Y. Med. Jour., July 28, 1900).

# TANNALBIN.

Tannalbin is a form of tannin albuminate, introduced by Prof. R. Gottlieb, of the Pharmacological Institute of the University of Heidelberg. Tannalbin, unlike tannic acid, does not precipitate pepsin, coagulate albumin, or impair the digestion. Tannalbin, being insoluble in the gastric juice, apparently passes through the stomach without the above reactions having occurred. Arriving in the duodenum, tannalbin meets with the alkaline secretions of that portion of the bowel, and is dissolved, and the digestive action of the pancreatic juice commences its action upon the albumin constituent, gradually setting free the tannin to act as an astringent throughout the entire intestinal tract. Thus set free, the tannic acid produces its characteristic action on the contents of the bowels and on the walls of the intestinal canal. It coagulates the mucus, precipitates the ptomaines resulting from bacterial action and the fermentation and decomposition of food, constricts the intestinal walls, and empties the capillaries. These facts explain, in part, its remedial virtues in the treatment of certain diarrhœas. It removes the cause of the diarrhœa by depriving the bacteria infesting the intestinal tract of pabulum for their continued existence, renders the toxic ptomaines resulting from bacterial action inert by forming practically insoluble tannates with them, and acts as a local astringent and healing agent upon the irritated mucous membrane of the intestine.



Tannalbin has been recommended in the treatment of those forms of diarrhœa in which astringents are indicated, such as acute intestinal indigestion after the bowel has been emptied by an enema or quick cathartic; intestinal catarrhs, both acute and chronic, employed in conjunction with proper diet alone or with other remedies; intestinal affections of children in hot weather; in phthisical diarrhœa, and in diarrhœas of the serous or atonic type.

The adult dosage, owing to the innocuousness of the drug, is not confined within any very exact limits. As much as  $2\frac{1}{2}$  drachms daily has been given continuously for days in succession by several authors, with wholly beneficial effect; but in the ordinary run of practice 45 to 90 grains per day, in 15- to 30-grain single doses, evenly distributed, has mostly been found sufficient for adults. In urgent acute cases a more frequent repetition (in two-hourly or even one-hourly intervals) has proved useful for promptly creating the first impression, the frequency being usually diminished as soon as the dejections are seen to improve and their number to decrease. In most of the chronic classes of cases it has been advised that treatment should continue for a time after the normal function of the intestine is re-established, to guard against any relapse.

The doses for nurslings are mostly from 5 to 8 grains, varying with age, up to 15 grains. The principles of initial frequency of dosage in urgent acute cases, and of continuance after a cure has been established in long-standing chronic cases, apply here as they do for adults.

Tannalbin, being a tasteless, odorless, and insoluble powder, its administration by mouth is, in adults, most readily performed by taking the powder dry on the tongue, and washing it down with a

draught of some liquid. For children, it will mix well enough with any viscid menstruum, such as syrup, honey, gruel, or mucilage. It likewise may be advantageously prescribed in cachets. Editorial (*Merck's Archives*, July, 1900).

### TETANUS.

**Prophylaxis.**—The wounds made by the wads from blank cartridges are frequently in the palm of the hand, and much deeper than one would be inclined to think. They usually go down to, if not through, the palmar fascia, and contain paper of which the wads are made, together with more or less burnt powder. These wounds should all be opened fully at once, thoroughly cleansed, and mopped out with some strong antiseptic; pure carbolic, followed by alcohol, answers well. The wound should then be packed, a wet dressing applied, and the patient very carefully watched for symptoms of tetanus. One is apt to be careless in regard to such wounds, and consider that he has done his full duty when he has washed them out and applied a wet dressing, thinking to open them later should suppuration occur. The danger of suppuration is great, but the danger of tetanus must not be forgotten.

In a large surgical dispensary of New York City, last July thirty-two wounds from toy-pistols and fifteen from powder-burns were treated. Of this number three small boys who were wounded by the wads of toy-pistols developed tetanus and died within five days from the onset of the disease, in spite of treatment with antitoxin. It is worthy of note that in not one of the cases would the parents allow thorough opening and disinfection of the wound until after symptoms of tetanus had devel-

oped. Of the powder-burns, a man who had celebrated the Fourth with fire-crackers received a slight burn on the hand. He came in with trismus, and was sent at once to a hospital, where he died two weeks later of tetanus. During the same month about 2000 open wounds were treated at this dispensary. Of this number only one developed tetanus. This was a youth who came in with cellulitis, following a traumatic amputation of the finger. Whether the fact that tetanus, following so frequently wounds from toy-pistols, be due to bacilli contained in the wad, or whether infection occur subsequently, has not been determined. The bacillus of tetanus is anaërobic and is found in dirt, particularly that about stables. These comparatively deep wounds occur most frequently in the grimy palms of small boys. So serious are they that one might be considered justified in administering tetanus antitoxin as a prophylactic. Editorial (*Pediatrics*, July 1, 1900).

#### TONSILLITIS, ACUTE CATARRHAL.

**Treatment.**—At the onset of acute catarrhal tonsillitis a saline purgative should be administered and the tonsils and pharynx should be sprayed or brushed every hour with a solution of:—

R Formalin, 15 to 20 minims.  
Potass. chlor., 1 drachm.  
Liq. ferri chlor., 1 drachm.  
Aqua menthae pip. q. s. ad 4 ounces.

M. Sig: Use as spray.

Early in the disease cold applied internally in the form of gargles or cracked ice in the mouth, and externally in the form of cold compress or ice-bag, is of invaluable aid. The patient should drink frequently of equal portions of cold milk and Vichy. For the febrile condition antipyrine is to be administered, and in conjunction a capsule containing the following is given:—

R Quinin. hydrobromat., 1 grain.  
Sodii benzoatis, 2 grains.  
Salol., 5 grains.

M. et ft. cap. No. j.

Sig.: One every three hours.

If the inflammation extends to the deeper tissues, the tonsils and surrounding structures become œdematous and interfere with deglutition. Multiple punctures and scarifications are then indicated in order to produce free bleeding, and at this stage heat applied internally, in the form of gargles and hot drinks, and externally, in the form of poultices and fomentations, is indicated. J. H. Abraham (*Jour. Amer. Med. Assoc.*, July 21, 1900).

### Books and Monographs Received.

The editor begs to acknowledge, with thanks, the receipt of the following books and monographs:—

"Festschrift" in Honor of Abraham Jacobi, M.D., LL.D. To Commemorate the Seventieth Anniversary of His Birth. May Sixth, 1900. The Knickerbocker Press, New York.—A Digest of Metabolism Experiments in which the Balance of Income and Outgo was Determined. By W. O. Atwater, Ph.D., and C. F. Langworthy, Ph.D. U. S. Department of Agriculture, Washington, D. C., 1897.—*Datos para la Materia Medica Mexicana*. Teresa Parra, 1900.—A Contribution to the Technique of Modern Cranioplasty. By James F. McKernan, M.D., New York.—Sigmoid Sinus thrombosis. By James F. McKernan, M.D., New York, 1900.—Some Unusual Cases of Appendicitis with Complications. By A. Vander Veer, M.D., Albany, N. Y., 1899.—Foreign Bodies in the Oesophagus, with Report of Cases. By A. Vander Veer, M.D., Albany, N. Y., 1899.—A Case of Hereditary Ataxia, with Generalized, Bilateral, Choreiform, and Athetoid Movements. By Bernard Göttinger, M.D., Denver, Col., 1900.—Aqueous Suprarenal Extract, its Surgical and Therapeutic Uses. By Joseph Mullen, M.D., Houston, Texas, 1899.—Mineral Waters and Spas, Savoy (France), 1900.

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## Cyclopædia of the Year's Literature.

### ANEURISM.

**Treatment.**—Lewis F. Bishop<sup>1</sup> remarks that, in the midst of the many and newer methods of treatment suggested for aneurism, it must not be forgotten that the oldest remedy, iodide of potash, is also the most reliable for the relief of the annoying symptoms

that make life often so unbearable for patients suffering from this condition. The remedy has no radically-curative effect, but as a palliative measure there is nothing to equal it, and it should be employed freely in every case.

Med. News, Aug. 11, 1900.

Lewis A. Conner<sup>2</sup> notes three cases of thoracic aneurism treated by gelatin injections. They were under observation in the Hudson Street Hospital. None of them was successful. The cases were not under observation long enough to give data for a final conclusion, but the result seems sufficient to indicate that gelatin injections not only do no good, but cause severe pain locally and often considerable constitutional reaction. Lancereaux's method was to take 4 to 5 grammes of gelatin and make a solution of it in 200 cubic centimetres of normal salt solution. This was kept for several days at a temperature of 38° C. If no cloudiness developed nor any other sign of micro-organismal growth, the liquid was injected subcutaneously, usually into the patient's thigh. After about a week another injection was made and the treatment continued at regular intervals. Special directions were given by Lancereaux not to palpate the aneurism during the course of the treatment. At first, a 2-per-cent. solution of gelatin was used; later, however, he used a 1-per-cent. solution. Attention is called to the fact that if Lancereaux's directions were followed the patient would be given twenty injections covering a period of five months. During all this time the patient should rest in bed. Rest is sufficient of itself to relieve greatly the subjective symptoms of aneurism, and often does away with certain of the physical signs and even lessens the size of the aneurism.

Fletcher<sup>3</sup> draws the following conclusions from his experience with the gelatin treatment in nine cases:

1. In not a single instance has the aneurism been cured, although in one case the abdominal aneurism has di-

minished considerably in size and the case is still under treatment.

2. In seven of the nine cases there was an appreciable diminution in the subjective symptoms referable to the pressure of the aneurism.

3. It seems quite certain that the subcutaneous injection of gelatin solution does materially increase the coagulability of the blood.

4. Contrary to the statement of Lancereaux, it has been found that the gelatin injections are frequently very painful to the patient, the pain lasting and being most intense often as late as six hours after the injection.

5. Although Lancereaux states that with strict antiseptic and aseptic precautions there should be no elevation of temperature, we have found the contrary. In several instances the injections were followed, two to four hours later, by a distinct chill, with an elevation of temperature reaching at times as high as 103° F. In no case was there any local suppuration, and in only one case was there even any local reaction.

6. Notwithstanding the fact that there is not yet a personal case which can be reported as cured, it is thought that there is some merit in the treatment, and that it deserves a further trial.

Buchholz<sup>4</sup> notes the case of an abdominal aortic aneurism in a woman. There was a systolic "bruit" over the area, but the heart was normal. Gelatin was given per mouth. Five drachms dissolved in normal saline were given daily. The recumbent position was maintained and ice-bags continuously

<sup>2</sup> Med. News, Aug. 11, 1900.

<sup>3</sup> Jour. Amer. Med. Assoc., Jan. 27, 1900.

<sup>4</sup> Norsk Mag. f. Lægevidenskab, p. 185, 1900.

applied to the abdomen. Two months afterward the tumor was less resistant and smaller. The ice-bag was then used during two hours daily, and the gelatin given every other day. Four weeks later the aneurism could only be felt as a slight thickening. The ice applications were now suspended, and a solution of ichthyol in chloroform and camphor spirit was rubbed over the painful places. The gelatin was continued for four weeks, and the patient allowed to gradually resume ordinary duties.

A. E. Halsted<sup>5</sup> notes a case of recovery after ligation of the first part of the right subclavian artery for aneurism of the third portion. He believes that it is the second case of recovery on record. The following points are worthy of consideration: 1. The aneurism involved the entire third portion of the subclavian and encroached slightly upon the second portion; so that the only rational method of treatment was ligation of the first part. 2. The subclavian vein was found above the artery throughout its whole course. Owing to this position of the vein, it was torn while efforts were made to retract it downward so as to reach the artery external to the internal jugular. As a result of this accident, a considerable amount of time was consumed before the hæmorrhage could be controlled by lateral ligation of the vein. 3. The anomalous origin of the right subclavian and the unusual depth of this vessel were for a time very confusing. Preliminary resection of the clavicle and a portion of the sternum is strongly recommended in all cases. It makes very little difference whether the portion of the clavicle which is resected is restored or not. In the case just reported the patient had an almost perfect clavicle at the end of six weeks,

although the inner third, together with the upper end of the sternum, had been removed. The ligatures employed in this case were of formaldehyde catgut. The suggestion of Souchon, of applying two or three non-contiguous absorption ligatures, should be followed in all cases. The ligatures should be drawn sufficiently tight to occlude the vessel, and not tight enough to rupture the arterial wall.

### GASTRIC ULCER.

**Etiology.**—Dieulafoy<sup>6</sup> considers that acute ulcer of the stomach is nearly always infectious in origin. He has seen a series of cases in recent years in which, during the course of pneumonia, hæmatemesis has occurred. On several occasions death has ensued and the autopsy showed that the mucous membrane of the stomach was deeply eroded. In nearly every case the pneumococcus was demonstrated almost in pure culture. At times these micro-organisms were found in large masses. Very seldom had the ulcerative process attacked the muscular coat of the stomach. The ulcers were evidently acute, and but of few days' standing; the weakening effect of the loss of blood caused death to ensue from the pneumonia. A small artery was usually found to be eroded. The hæmatemesis usually occurred on the third to the fifth day of the pneumonia.

Gastric ulcer may also result from an intense toxæmia. On the second or third day, for instance, of an appendicitis the patient becomes yellow, evidently from toxic icterus; the urine contains albumin and urobilin in considerable quantities, and black vomit, etc.

<sup>5</sup> *Annals of Surgery*, May, 1900.

<sup>6</sup> *Arch. Nech.*, Aug. 18, 1900.



dently of altered blood, occurs. In such cases, when fatal, an ulcer of the stomach is also found.

**Treatment.**—In non-malignant gastric ulcers Satterthwaite<sup>7</sup> thinks that, in so far as treatment is concerned, two things should be prominent in one's mind: first, to relieve immediate symptoms; second, to cure the ulcer. In hæmatemesis one cannot insist too strongly upon rest in bed; the patient must not get up for any reason whatever. No food should be taken by the mouth, and, in fact, no liquid should enter the œsophagus. The lips may be bathed in water. If hæmorrhage continues, some preparation of ergot should be used, perhaps followed by morphine in  $\frac{1}{4}$ -grain doses. An ice-bag or cold-water bag should be applied to the stomach. In case of collapse, transfusion should be made with decinormal salt solution. During this period the patient should be fed by the bowel. Six ounces of peptonized milk should be given every three or four hours. At the end of three days a little liquid may be given by the mouth: *i.e.*, milk, lime-water, beef-tea, or the peptonoids. At the end of the week the patient should be put on a regular diet and kept in bed. The bowels should be moved by laxatives, such as Apenta water. Warm applications should be made continuously to the epigastrium. After two weeks the patient may be allowed to get up, but food likely to distend the stomach should be avoided. The stomach should never be washed out nor the tube used in gastric ulcer.

Boardman Reed<sup>8</sup> states that, to put the stomach at rest physically and functionally, it will be necessary, first, to keep the patient in bed for a time—three weeks at least and four to six weeks are better—and for one week to

feed exclusively per rectum, or longer in the worst cases. Besides complete physical rest with rectal feeding at first, the Ziemssen and Leube method comprises also the use of hot poultices or hot compresses over the stomach. These should be kept constantly in place, being held there by flannel belts with oiled silk or other impervious material between. These hot applications should be changed by day every two or three hours at least, or much oftener when there is acute pain, but if well covered the wet compresses will retain sufficient warmth to be left on safely all night. The nutrient enemata should be introduced two or four times a day, according to the tolerance of the bowel, after a preliminary clyster of salt and water for cleansing, and may consist of any of the following, which need not be predigested: Good fresh milk, freshly expressed beef-juice, meat-powder or somatose dissolved in milk or water, raw eggs, solutions of sugar, butter or olive-oil (not more than an ounce or two of the latter a day, lest it provoke loose stools), and solutions of very thoroughly cooked starch. A pinch of salt should be added to each enema.

Dorkin, in a large series of cases, has continued rectal feeding for twenty-three days with good results; but in gastric ulcer, unless hæmorrhage should continue (a most unlikely event under such a method of treatment), very cautious feeding by the mouth can be resumed usually by the end of a week. Milk and lime-water, equal parts, will constitute the best food to begin with, and, when there is any remaining irritability of the stomach, it will be well to give half a tumblerful every hour for a

<sup>7</sup> Med. Record, Mar. 24, 1900.

<sup>8</sup> Internat. Med. Mag., May, 1900.

day or two, though sometimes it is necessary to begin with a tablespoonful every half-hour. After the first few feedings, and with the vomiting over, equal parts of milk, lime-water, and rice-water or barley-water may be taken in the same way. After two days the amount of this combination can usually be increased to one or one and a half tumblerfuls every two hours, provided there be no decided atony or dilatation of the stomach. Meanwhile, it will be advisable to continue the administration daily of two enemas at least for another week, in addition to the restricted feeding by the mouth. Beef-tea or bouillon is early added to the diet by some, but such preparations are little more than solutions of the meat salts, which are exceedingly stimulating to the gastric glands, and are therefore best not introduced into the stomach in such cases. Lightly boiled or poached eggs without pepper, and only slightly salted, are much safer, and one of these may be allowed once a day in addition to the milk mixture from the fourth to the seventh day, twice a day from the eighth to the eleventh day, and thereafter three times a day. Calf's-foot jelly makes another bland and nourishing addition to this stage.

After the eighth day the patient is to be allowed every three hours a larger feeding, as follows: Two tumblers of the milk mixture, in which a cracker may be dissolved, and, besides, once a day, instead of the milk, a tumbler of a smooth, well-strained *puree* made of corn, peas, celery, or asparagus. This, in addition to the eggs or calf's-foot jelly, provided, always, the stomach proves to be tolerant of the additions.

By the end of two weeks it is usually safe to add some of the blander starchy preparations, such as "cream of wheat,"

"oat-flour," and other similar finely-ground-and-bolted cereals, which are to be thoroughly well cooked and served with fresh milk or even good fresh, sterile cream, when the latter is well tolerated, but not with sugar. Small feedings every three hours, limited strictly to such viands as those above mentioned, should be insisted upon for fully three weeks, and then a more liberal, but rational, diet may be gradually resumed. The patient will be safer without meat, especially meat-fibre not hashed, for months after his apparent recovery, and should avoid still more stringently, for a longer period yet, all alcoholic beverages, spices, or condiments (except sparingly of table salt); the sharper acids, as vinegar and very acid fruits; the coarser or cruder vegetables, fried foods, pickles, and all the coarser grains. The ordinary rough, unbolted oatmeal and bran-bread, as well as the hard crust of any bread, dry toast, zwieback, etc., are hurtful in these cases, being mechanically irritating.

During the rest in bed, massage should be given once or twice daily over the entire body, except the abdomen, which must be strictly avoided. Constipation must be overcome by saline laxatives, preferably sodium sulphate or the Carlsbad salt, except when these disagree, as rarely happens. In case they do, it is usually better to rely upon douches of the colon with salt water or clysters of olive-oil, rather than to risk administering the stimulating cathartics.

By the end of three or four weeks, in most cases, one should begin very gradually to accustom the patient to exercise again.

The milder case—that receives this treatment by rectal feeding, and very restricted diet—will require little

or no medicine for the main disease, and there are not likely to be any complications demanding special treatment in cases thus managed.

If there should be pain or vomiting in spite of the regimen just described, pellets of ice swallowed and allowed to dissolve in the stomach will frequently afford relief. These are useful also to quench thirst during the period of exclusively rectal feeding, and at the same time the mouth may be rinsed as often as desired with cold water. If there should be very much thirst in spite of these measures, small sips of cool water may be allowed as often as necessary. When there is persistent pain, or burning, with no food or only liquids being taken by the mouth, it is usually dependent upon excessive HCl, and relief will then usually follow the administration of  $\frac{1}{2}$ - to 1-teaspoonful doses of sodium bicarbonate dissolved in a tumbler of warm (not hot) water. The same should be given half an hour before the three chief feedings daily when HCl secretion continues large. In all cases that prove stubborn, and in the severe or advanced ones from the start, it is well to institute the Kussmaul-Fleiner treatment with very large doses of bismuth subnitrate. Fleiner washes out the stomach before breakfast and then introduces through the tube 10 to 15 grammes— $2\frac{1}{2}$  to 5 drachms—of bismuth suspended in about 6 ounces of water. But it has been personally found that administering 40 to 60 grains in a draught of water, three times a day an hour before food, usually answers every purpose, even without a preliminary lavage. So far from always constipating, these large doses sometimes aid in overcoming constipation, the stools becoming more satisfactory than before. When, however, there is a contrary re-

sult, enemas of 4 to 12 ounces of olive-oil, or cotton-seed oil, every two or three nights, will usually secure good movements without irritation.

As the design is to have the bismuth form a protective coating over the mucous membrane of the stomach, it may be better to imitate Fleiner's method, without using the tube, by having the patient take 2 drachms of the bismuth suspended in a glass of water upon an empty stomach early every morning at first, and every other morning later on, after a few days of such treatment.

In perforating ulcer of the stomach J. M. T. Finney<sup>9</sup> says success in operation depends on early diagnosis. There are no distinctive symptoms of impending perforation, but the perforation itself is attended, as a rule, by well-marked phenomena. Sudden sharp pain in the upper part of the abdomen, often accompanied by vomiting and symptoms of shock, localized tenderness and marked rigidity of the abdominal muscles, with retraction, have been generally noted. Later, there is gradually-increasing distension, possibly with free fluid in the peritoneal cavity. Another important symptom, to which thus far no attention has been paid, is the development of marked leucocytosis. This condition of the blood is never seen in connection with gastric ulcer except after perforation, or a severe hæmorrhage, or a sudden change from absolute rectal feeding to feeding by the stomach. This development of leucocytosis is an important symptom, and should always be looked for, but too much reliance must not be placed upon it, as at times it has been found wanting. The operator should not delay operation on account of shock. In

<sup>9</sup> Med. News, May 5, 1900.



doubtful cases one should open the abdomen to establish the diagnosis, using for the purpose cocaine anæsthesia, which may be supplemented, if the patient complains, by a few whiffs of ether or chloroform. The surgeon should systematically explore the stomach, passing from the cardiac end over the anterior wall to the pylorus, and then along the lesser curvature; and then, lifting the stomach, he should examine the posterior wall. The necessity of thorough cleansing of the intestines, coil by coil, and of the whole peritoneal cavity by irrigation and wiping with gauze pledgets is insisted upon. Adhesions should be respected. If the operation is performed early and the peritoneum is thoroughly cleansed, the abdomen may be closed. In doubtful cases it is better to drain. Post-operative distension, most marked when opium has been freely given before operation, should be treated by calomel in broken doses followed by salts, high enemata of glycerin and water or glycerin and oil. Washing out the stomach and the application of the Paquelin cautery to the abdomen are, also, useful measures.

W. L. Rodman<sup>10</sup> states that since the worst complications may develop unexpectedly, there is but one safe rule to follow, and that is for the physician to treat all patients having gastric ulcer, either in a hospital or at their homes, in conjunction with a surgeon. Three-fourths of all cases of non-perforating gastric ulcer can be cured by medical means; but if success does not follow medical measures in four or five weeks, surgical relief should be sought. Excision of the ulcer is the ideal treatment in the face of uncontrollable vomiting, suspected malignant degeneration, etc., but gastro-enterostomy gives almost as

good results, and is to be preferred in all cases in which severe hæmorrhage follows from a posterior situation of the ulcer.

Operation for hæmorrhage is not advised either during the first attack or during recovery from it. Only 8 per cent. of patients who bleed from the stomach die. Even in a second hæmorrhage it may be advisable to wait. But the published records of cases show that delay after a second severe hæmorrhage has more than once cost the life of the patient. The results of operation in acute hæmorrhage are encouraging and are growing better each year.

Mitchell<sup>11</sup> has collected 13 cases of gastric ulcer that have recently been operated upon. Successful and unsuccessful cases are alike recorded, and the results show 13 cases, with 6 recoveries.

From his observations in 11 of the reported cases which he operated upon or at which he was present, the following lessons are derived: 1. The incision in the first instance should be a fairly small one, and the peritoneal opening as small as possible, in order that the gas may escape slowly. Once all doubt as to the diagnosis has been set at rest, the wound may be rapidly enlarged to the required length by the scissors. 2. The best guide to the ulcer seems to be the presence of adhesions. Having drawn gently on the stomach, one finds that in some directions it is more fixed than in others. On running the finger down to this area, one will generally come on a zone of induration, in the midst of which the ulcer is almost certain to be found when the adhesions have been separated. On course, cases occur in which perforation takes place

<sup>10</sup> Med. News, May 3, 1900.

<sup>11</sup> Brit. Med. Jour., May 10, 1900.

so rapidly after the onset of the ulcer that there is no time for adhesions or for induration, but they are very rare.

The bubbling up of fluid and other gastric contents is not necessarily a guide to the seat of perforation. Should a careful search fail to show the ulcer on the anterior surface it will be necessary to open the lesser sac of peritoneum, and this can be most easily done by tearing through the layers of the great omentum, when the posterior surface can be examined. It is not always possible to bring the stomach and perforation into the abdominal wound; in fact, it is usually impossible.

The ulcer need not be resected; serious hæmorrhage is likely to follow. A running suture closes the wound and is buried by Lembert sutures.

The peritoneal cavity may be cleansed: 1. By sponging with sterile gauze pads. 2. By thorough douching with boiled water or normal salt solution. Of the 6 successful cases 4 were sponged alone; 1 was douched alone; while in 1, in which the gastric contents had reached the pelvis, both methods were employed. The douche was employed in 3 unsuccessful cases, but they were at the same time the most unfavorable of the 5.

Drainage should never be omitted. A gauze drain is gradually taking the place of the older methods, and a strand of this material should be introduced so as to lead down the line of suture, and one into each subphrenic space. Although often difficult to remove on the third or fourth day, it will come away easily at the end of a week.

Ewald<sup>12</sup> says cicatricial contractions of the stomach after ulcer often give a great deal of discomfort, and the only satisfactory treatment in obstinately severe cases is recourse to surgery. As

soon as it has been demonstrated that such cases are obstinate to medical treatment (as they are inevitably progressive), surgical intervention should be recommended.

### MALARIA.

**Diagnosis.**—Albert Woldert<sup>13</sup> insists that the plasmodia, hæmatozoa, or sporozoa of malarial fever are best studied in a *fresh* specimen of the blood. A  $1\frac{1}{2}$  oil-immersion lens and mechanical stage are preferable. In examining the fresh specimen the microscope should be taken to the *bedside* of the patient and the blood maintained at the body-temperature; carrying the specimen from one room to the other frequently destroys it. A warm stage may be easily made of a long strip of copper plate adjusted to the stage of the microscope and tapering toward one end. This is laid on a piece of flannel or felt, and a small alcohol-lamp placed at its tip. In the summer months the slide should rest on a piece of flannel or felt laid on the stage of the microscope.

The tertian parasite is the best for studying the general characteristics of the malarial hæmatozoa, the blood being taken an hour or two before the expected chill.

With a linen towel the lobe of the ear or end of the finger should be cleansed, first with alcohol, then with water. The warm stage is to be properly adjusted so that the specimen may be preserved at a temperature of about 98.2° F. With a needle or tenotome a quick thrust is to be made into the lobe of ear or end of finger, and with the linen cloth, the first drop or two of blood that makes its appearance is to be

<sup>12</sup> Med. News, Aug. 18, 1900.

<sup>13</sup> Medicine, May, 1900.

brushed away. The cover-slip is then held in the blades of the forceps, and touched to the summit of the drop of blood (without touching the skin). One edge of the cover-glass is quickly applied to the slide, and allowed to fall by its own weight, when the blood should spread out smoothly. One should never press downward upon the cover-slip to assist the blood in spreading. It is time wasted to try to examine a bad specimen. It is always well to collect two or more samples before beginning the examination. The specimen should be examined immediately after it has been withdrawn from the circulation. Several specimens should be collected at different periods of the fever, because the parasites are not always found. As a rule, only a limited number of malarial parasites are discovered in each specimen of blood obtained.

The *Plasmodium malariae* has a turning, twisting, rotary, or flattening-out movement, and in the later stages contains fine pigment-granules in active motion.

It is very common to meet with foreign material and "blood-dust" in the plasma, which at times may be mistaken for the non-pigment hyaline parasites of malarial fever. The bodies may have an active Brownian movement.

In beginning this study one should confine his attention to the parasites within the red cells. In looking for the tertian parasite any enlarged and decolorized red corpuscle should at once arrest the attention.

Except in the æstivo-autumnal type of fever, a few doses of quinine will cause all organisms to disappear from the blood.

That which takes the first rank as a source of error in this examination is failure to obtain a good specimen of

blood. The three most essential requisites for a good specimen are: (1) a puncture deep enough to make the drop of blood appear immediately (pressure and this), (2) clean cover-slips and slides, and (3) dexterity of movement in transferring the specimen.

Another frequent source of error is to mistake the vacuoles of red cells for hyaline malarial parasites. During the process of necrobiosis the red cells take on a peculiar tremulous or wavy motion, which is imparted to the contained protoplasm. At this time vacuoles of different sizes and shapes may be seen within the red corpuscles. In this clear space no pigment, of course, is seen, and it is motionless. In stained specimens prepared by overheating they are very common.

After the death of the red corpuscle, small, round, colorless (hyaline) bodies ( $\frac{1}{2}$  to  $\frac{1}{4}$  the size of a red cell), with a sharp or clear-out outline, may frequently be seen within the red cell. They are motionless. These bodies are abundant in the stained specimen improperly prepared by overheating, and may also be found in specimens prepared by fixation in ether and alcohol. In focusing up and down they change in appearance and color, while the malarial parasite does not do so.

Occasionally the haemoglobin will collect in certain portions of the erythrocyte, assuming peculiar shapes (mostly oval), but without motion.

The amoeboid motion of the white blood-corpuscle (polymorphonuclear leucocyte) is not infrequently mistaken for the well-grown malarial parasite. Its nuclei will, of course, be easily recognized after some practice.

Minute, colorless, highly-refractive granules may be seen free in the plasma, the so-called "blood-dust." They gen-



erally result from disintegration of the red cells and leucocytes. Fat particles and ordinary dust may also be found in many specimens. These foreign elements often have an extremely rapid Brownian movement. The particles usually take the course of the spaces between the corpuscles, but not infrequently roll around and lodge immediately over a red cell. Peculiar motile micro-organisms which make their habitat on the normal skin may also be introduced in making the puncture. It should be remembered that the hyaline segmenting malarial parasites are seldom found free in the plasma.

Small reddish particles of destroyed hæmoglobin of different sizes and shapes may also be seen in the plasma in normal blood.

Foreign bodies are differentiated from the malarial parasite by focusing up and down, when the former material is seen to have sharp edges and changes its color and shape, in contradistinction to the malarial parasite, which does not change its shape on change of focus, but becomes easily visible or fades away gradually in the protoplasm of the red corpuscle. In searching for the malarial parasite the best focal point seems to be that at which the shaded central portion of the red cell is most plainly visible.

The malarial parasites are, as a rule, relatively few in number in each drop of blood obtained, and frequently fifteen minutes may be required to find a single specimen.

After learning the characteristics of the different forms of plasmodia in the fresh specimen of blood, the staining methods may be used. The puncture is made as advised in the fresh specimen, the clean coverslip held in the forceps is quickly touched to the sur-

mit of the drop and then immediately placed upon another slip, which is at once separated by sliding the upper one along in the plane of their surfaces.

The blood is then fixed by heat, preferably in a dry sterilizer or oven. In the absence of the sterilizer, one may secure a plate of copper fifteen or eighteen inches long, one-eighth to one-sixth inch thick, and three inches wide, and heat for fifteen or twenty minutes by placing at one end a Bunsen burner or oil-lamp provided with a double wick, or Rochester burner. The entire apparatus must be well protected from all draughts by means of a wide piece of tin or be placed in a closed room.

The proper temperature to heat the specimen is from 239° to 248° F., which is determined by collecting a few drops of water in a pipette and throwing somewhat forcibly along the upper surface of the copper plate in the direction of its cooler extremity. The drops of water soon cease rolling, and the point where the drop suddenly stops will generally correspond to about 248° F. (or 120° C.). It is safer to place the drop of blood an inch or two nearer the cooler end than this point.

After the blood has been thoroughly dried in the air it is then placed (smears side upward) upon this plate at the point designated and allowed to remain from fifteen to thirty minutes, continuing the heat all the time. It should then be removed and stained. Only the purest stains (Grübler's) should be used. One of the best and most reliable stains is that of eosin and methylene-blue.

After removal from the plate the specimen is covered over with a  $\frac{1}{4}$ - to  $\frac{1}{2}$ -per-cent. solution of eosin in 50-per-cent. alcohol and stained in the cold from three to five minutes. It is then washed in water for a minute (eosin stains the

red cells intensely) and the excess of water is removed carefully with a blotter. After the specimen is dry it is then counter-stained (also in the cold) for five minutes with a saturated aqueous solution of methylene-blue, washed for half a minute, dried with blotting-paper or in the air, and mounted in Canada balsam. By this method the red cells are stained a pinkish color, the plasmodia blue, and the pigment remains very dark. The nuclei of the white blood-corpuscles stain blue.

The three most common errors committed in examining the stained specimen are, perhaps: (1) failure to collect the blood properly, (2) carelessness in placing the stain upon the specimen, and (3) overheating the specimen.

As in the fresh specimen, small, round, unstained, highly-refractive bodies may be seen in the red corpuscles. These products result from the process of necrobiosis of the red corpuscles. They are very abundant in overheated specimens. When the blood has been stained by Ehrlich's method may small pinkish dotlets are observed.

The karyokinetic figures of the leucocytes should not be mistaken for the malarial parasites.

If crescent or ring-shaped organisms are found, this fact at once denotes infection by the æstivo-autumnal parasite.

Another frequent error made by beginners is to mistake the clear spaces (vacuoles) in the red cells for malarial parasites.

Very large, irregular, jagged hyaline crystals and irregular, deep-blue masses are seen free in the plasma, which are doubtless due to disintegrated blood-corpuscles.

C. N. B. Camack<sup>14</sup> remarks that for years malaria has been made the scape-goat for all conditions of the character of

which one may be uncertain. Every patient with an intermittent fever associated with malaise of uncertain origin—especially if such a patient resided in a malarial district—was said to be suffering from malaria. Malaria is to-day one of the few diseases that can be positively diagnosed. No case should be diagnosed as malaria unless the *Plasmodium malariae* has been found in the blood. Examinations for this organism need a microscope and the knowledge how to use it. Unfortunately the blood is not frequently submitted to this test. If this were done, beginning cases of tuberculosis and intermittent fevers in pneumonia would be much less frequently called malaria.

Patrick Manson<sup>15</sup> thinks that few diseases are so easily diagnosed as malaria. There are three pathognomonic tests which, intelligently applied, are absolutely infallible. There is the clinical test of periodicity, but diurnal periodicity is of no value in the diagnosis of malaria. A periodicity of twenty-four hours is shared with malaria by many diseases, but it is otherwise with a periodicity of forty-eight hours or seventy-two hours. Only one pathological condition exhibits this feature and that is the malarial infection. Any disease exhibiting a tertian or quartan periodicity is certainly malarial. But one should not put any reliance upon quotidian periodicity in the diagnosis of malaria; it is most misleading, and constantly gives rise to mistake. If a patient has well-marked rigor followed by pyrexia, and that by profuse perspiration, and if this occurs day after day, the conclusion must not be jumped at that the case must be malarial because of the periodicity and because the patient is from

<sup>14</sup> Jour. Amer. Med. Assoc. July 28, 1900.

<sup>15</sup> Lancet, July 21, 1899.

a tropical country. In diagnosis quotidian periodicity should be absolutely ignored. A patient with well-marked abscess of the liver has been personally seen, the patient himself being a medical man, and yet because he had rigor, pyrexia, and perspiration day after day he was sure that he was suffering from malarial fever, and he was taking quinine in consequence. Nearly all suppurative processes are attended by a fever with a quotidian periodicity more or less marked. Osler says that he never sees a case of abscess of liver that has not been drenched with quinine, the diagnosis of malaria having been made doubtless in consequence of the quotidian recurrent pyrexia. Many diseases—ulcerative endocarditis, surgical kidney, gall-stones, syphilis, tubercle, almost every disease with febrile associations—may exhibit quotidian periodicity. But it is otherwise with tertian and quartan periodicity; these are both absolutely pathognomonic of malaria. Then there is the therapeutic test: the test by quinine. Quinine properly administered in a case of malarial disease in forty-eight hours is, in personal experience, invariably followed by abatement of the symptoms. If a patient is given quinine for seventy-two hours and there is no abatement of fever, the diagnosis should be reversed: the patient is not suffering from malaria. There is no use in persisting with quinine for days and weeks on the supposition that the case is malaria. The malarial parasite can be poisoned with quinine as certainly as a man can be poisoned with arsenic.

It is not sufficient, however, to rely on the therapeutic test, because in many instances there is no time to wait for its application, as in grave cerebral attacks. By the time the diagnosis is established the patient might be dead. It is necessary to have some more rapid means of

arriving at the conclusion of what is the matter with the patient. That is supplied by the microscope; it is an immediate and invaluable test for malaria. Practitioners in tropical countries fail in their duty to their patients if they do not acquaint themselves with the application of the microscope in the diagnosis of malaria. For the practitioner nowadays to undertake the care of life in tropical countries and to be ignorant of the use of the microscope in malarial diagnosis is positively culpable. The microscopical test is easily applied. All that is required is a high-power lens, a  $\frac{1}{12}$  objective, a fair illumination, and two or three slides, some cover-slips, and a patient. In five minutes one can tell whether the patient is suffering from malaria or not.

C. F. Craig<sup>16</sup> finds that from observations of æstivo-autumnal malarial fever in this country and Cuba, comprising both microscopical and clinical study under exceptional conditions as regards opportunity and material, he is forced by the logic of facts to confirm Marchiafava and Bignami's conclusion regarding this type of malarial fevers. There undoubtedly exist two varieties, at least, of the malarial parasite giving rise to these fevers: one having a cycle of development of twenty-four hours, and giving rise, in uncomplicated cases, to a fever having quotidian paroxysms; the other, having a life-cycle of forty-eight hours, and giving rise to a fever with tertian paroxysms, in which the temperature-curve is peculiar and characteristic.

Ronald Ross<sup>17</sup> points out that in old cases of malaria there may be a secondary form due probably to enlargement of the liver and spleen: a form of a continued type not directly due to the parasites, and

<sup>16</sup> Phila. Med. Jour., Apr. 7, 1900.

<sup>17</sup> Brit. Med. Jour., Sept. 1, 1900.



not amenable to quinine. This form has been noticed also by Vandyke Carter, Kelsch, Kiener, and others, and was personally observed while studying kala-azar. Torti was the first to point out that quinine should be given before the access. The drug should be continued for three months after infection, and it is best given in solution.

J. A. Capps<sup>18</sup> has had four interesting cases of malaria associated with acute abdominal pain. The patients were all women and were sent to the hospital for operation for acute salpingitis, gall-stone colic or gastric ulcer with perforation, extra-uterine pregnancy, and appendicitis, respectively.

The presence of the tertian parasite in each case demonstrated the presence of malaria, and the subsidence of all symptoms after the administration of quinine confirmed the diagnosis. The cause of the pain must be either (1) some co-existing disease, (2) a neuralgia from malarial poison, or (3) both combined. In not one of these cases was there a co-existing disease in an *acute* state. This point was indicated by the absence of leucocytosis, and illustrates the value of the leucocyte-count. The neuralgias of malaria may be divided into (1) the toxic, occurring during the febrile attack, associated with the presence of the plasmodia in the blood, and due to an intoxication with the malarial poison, and (2) the post-infective, which are the result of anemia and cachexia. The importance is emphasized of examining the blood for malaria and of counting the white blood-corpuscles in all obscure acute abdominal diseases. Malarial neuralgias require large doses of quinine.

**Etiology.**—W. S. Thayer<sup>19</sup> considers it as proved:—

1. That the malarial parasite possesses an extracorporeal cycle which is com-

pleted in the stomach-wall of mosquitoes of the genus *Anopheles*.

2. That members of the genus *Anopheles* can transmit malaria from infected to non-infected individuals.

At the present moment this is the only proved method by which malaria may be acquired. This theory explains most conditions associated with malarial infection; reports showing the protective efficacy of mosquito-nets even in the most malarial districts are rapidly accumulating; there is no serious evidence in support of any other theory.

The evidence at present possessed tends to favor the theory that the mosquito can acquire the infectious agent only from man. The statement is often made, that in tropical Africa, for instance, exploring parties may spend considerable periods of time in the uninhabited interior without illness, even though the regions may appear, from outward conditions, most unhealthy. It is only on their return to the seacoast, to districts where the surroundings would appear to be better, that the outbreaks of malaria occur. This hitherto inexplicable fact becomes clear if one assumes that in the woods, though all conditions are present for a spread of the disease, the mosquitoes are uninfected and so harmless; that only on coming back to the settlement where infected mosquitoes occur that the disease breaks out. Studies by Celli and Delpino, by Grassi, by Bastianelli and Biguard, of epidemics in small communities, have shown that the vernal cases of malaria are almost all relapses. That during the month of June the diagnosis began to be negative, that about a month after the beginning of the activity of the *Anopheles*, the true epidemic of malaria

<sup>18</sup>Jour. Amer. Med. Assoc., Aug. 1, 1909.

<sup>19</sup>Phil. Med. Jour., May 2, 1909.

begin, starting apparently in fact about individuals who have recently suffered from relapses of the disease. During the season in which *Anopheles* prevail the malarial epidemic flourishes, only to disappear again with the disappearance of the mosquitoes.

**Prophylaxis.**—The Liverpool School of Tropical Diseases states that gnats and mosquitoes are scientifically known as *Culicidæ*. The commonest genera are called *Culex* and *Anopheles*, and it is important to know how to distinguish between them, because *Anopheles* carry malaria, while the *Culex* appears to be harmless. *Anopheles* have a slim, elegant body, shaped like that of a humming-bird moth; a small head; and a long, thick proboscis. When seated on a wall, the axis of the body is almost at right angles to the wall, and they generally have spotted wings. The *Culex* has a coarser body, with a thick thorax, or chest, and a thin proboscis. When seated on a wall the tail hangs down, and the wings are generally quite plain. The wings of the *Anopheles* are spotted along the front edge.

The larvæ of the two kinds are equally different from each other. Those of the *Culex* float when at rest on the surface of the water, suspended by their tails, and their head hanging downwards; and when disturbed they wriggle at once to the bottom. But those of *Anopheles* float flat on the surface of the water like sticks, and when disturbed wriggle on the surface with a backward skating movement.

As a rule, malarial mosquitoes like to breed close to houses, and the *Culex* larvæ live in cess-pits of water, and *Anopheles* larvæ in pools. The first thing to do is to search cess-pits in and around the house for yucca and pools of water; and if there are many mosquitoes in the

house, one may be almost sure that their larvae are somewhere close by. The *Culex* swarms in any old tub or pot of water; in broken bottles, old gourds, flower-pots, cisterns, garden-fountains, and even in buckets of water kept for cooling milk-water or washing plates; or in the small tins of water placed beneath the feet of tables and meat-stands to keep sanitary. They may also swarm in drains and small ditches. To find the larvæ, all that one has to do is to go and look for them in places like these: and if one swims across them almost immediately spotted, red, worm-like creatures are often found mixed with the mosquito larvæ; these are not mosquito-larvæ, but the larvæ of midges.

To find *Anopheles* larvæ one must generally go farther afield. Small pools on the ground containing green water, and especially rain-water puddles by the side of roads and paths, are their favourite haunts; but they may also be found in puddles on the surface of roads, or ditches in rocks, in old wells, in drains, in small pools and rice fields, or even on "drippings" ground among grass, or around stables or byres. Stables and semi-detached cottages are very favourite haunts for adult *Anopheles*.

In order to kill mosquitoes where it is necessary only to destroy their eggs, this is generally a very easy matter, especially in regard to the *Culex*. One has only to go around the premises at least once a week and to empty or wipe pots and vessels containing stagnant water, and also to brush out with a broom all the corners of stables. As the larvæ are about a week in maturity, this procedure will generally be enough to keep them away, but, at the same time, it

necessary to prevent water collecting anywhere near the house.

Mosquitoes are numerous in a house, they will generally be found to be breeding just outside the windows. Hence, people can generally keep their houses comparatively free of these pests simply by abiding to their own premises.

Where small collections of water can easily be emptied out or brushed away, it is often more difficult, perhaps sometimes impossible, to deal with the larger collections of water in which mosquitoes, especially the dangerous ones, breed. In such cases the following measures are to be taken:—

1. All useless collections of water in which mosquitoes breed should be filled up or drained away, if this can be done at a reasonable cost.

2. If this cannot be done, recourse must be had to the habitual use of *culicidia*. The simplest culicicide is oil, especially kerosene-oil (paraffin). This, if sprinkled on the surface of water, produce a fine film, which destroys the larvæ by choking their air-tubes, or perhaps by annulling the surface-tension of the water. But the film must spread all over the surface of the water, and must last for at least half an hour. The oil can best be applied by "painting" the pool with a rag fixed on a stick, and first dipped in a pot of oil; in this manner numbers of pools can be dealt with in five minutes at the expense of very little oil.

Whatever fugitive culicicide is used, it must be used at least once a week. Cisterns and wells of drinking-water should be kept covered in as much as possible.

It is sometimes impossible to find the breeding-pools of *Anopheles*, even where the adults are numerous in a house. This is especially the case when there is much rank vegetation round the house. Here

much if good can be done by simply killing the adult insects as they sleep on the walls during the day-time. Fly-flappers should be used; it is dangerous to kill mosquitoes with the hands because the insects sometimes contain parasites which cause elephantiasis.

W. H. Vothorstaff<sup>21</sup> says that he has examined a large number of tree-pines in Jamaica, but so far has been unsuccessful in finding *Anopheles* larvæ in them; but in almost every instance, whenever there was any water, even a very small quantity, *Culex* larvæ were found in large numbers and of various species. In this district it is believed that the tree-pines are the most common breeding-places of *Culex*.

C. Fermi<sup>22</sup> has made some experiments in Sassari, in conjunction with Dr. Lumbau and Dr. Cossu-Rocca, with the object of freeing the town from mosquitoes. He was able to discover all their breeding-places in different parts of the city, in drains, cisterns, puddles, etc. The method adopted was the destruction of the larvæ by means of petroleum placed in the breeding-grounds twice a month. The mosquitoes were destroyed in shops by means of chlorine, and in houses by means of other culicicides, such as a mixture of pyrethrum, chrysanthemum-flowers, valerian, and calamus aromaticus, or the "zanzoline" of Colla and Casagrandi. The results obtained were so satisfactory that it is concluded from them that it is always possible to free a town from mosquitoes unless the conditions are exceptionally unfavourable—if it be situated in the midst of a swamp. The expense of freeing a town of 60,000 inhabitants is estimated at \$200 to \$250 a year. This includes the wages of the staff re-

(21) Med. Jour., June 5, 1900.

(22) Abdi Jour., May 12, 1900.



quired to carry out the measures prescribed. The expense is small in comparison with that of other methods, such as smoke-cones, which only some 10 per cent. of the people can be got to use.

Woldert<sup>23</sup> notes the finding of *Anopheles* in December and January in Washington; in Philadelphia up to the end of October; on the snow in Vermont in February, and at various times during the winter even at the North. There is no need, then, for the mosquito to migrate for long distances. It may persist throughout the year even in high Northern latitudes. It has been seen on several occasions and at various places within 500 miles of the North Pole. When mosquitoes are found during the winter they are always encountered not far from standing water and in the neighborhood of an animal. Where the pupæ of the insects occur they may best be destroyed by the use of a solution of tobacco in kerosene-oil.

A. Celli<sup>24</sup> remarks that, as is usually the case, rational prophylaxis depends on accurate diagnosis, and in this case what is necessary in order to verify the diagnosis is to examine the blood either in fresh or stained preparations.

Isolation is the first prophylactic measure, and should be taken directly the diagnosis is verified. In a malarious place a person affected by the fever is very dangerous to others, and should therefore be isolated, malaria being a true and proper contagious disease.

Malarial patients can be isolated in any place where there are no malarial mosquitoes.

The best place for isolation would be special sanatoria situated in healthy elevated regions. Inasmuch as the sexual forms of the parasite are the most dangerous sources of contagion, and they, unfortunately, remain for a long time in the

blood, the convalescents should not be sent back to the infected places until the absence of the parasitic forms most dangerous socially has been verified by repeated examinations of the blood and perhaps also of the spleen.

Quinine is the specific disinfectant for amœboid organisms, and consequently for the malarial parasites in their amœboid stage. The quinine must be given at once at the beginning of the fever and in large doses, 2 grammes (30 grains), for example; it should be repeated in doses of  $\frac{1}{2}$  gramme ( $\frac{1}{2}$  grains) for several days, and then at intervals of five, six, or seven days. But even this treatment, if the patient remain in the infected place, does not always prevent recurrences, and an intolerance for a drug which disturbs the stomach and nervous system so much is easily produced.

Patrick Manson<sup>25</sup> states that the reputed prophylactic action of quinine is but a phase of its therapeutic action; it is the application of the drug to the parasite, and not an immunizing of the body against the entrance of the parasite, one has to deal with; therefore one may confidently expect that, if it will cure a malarial infection, it will prevent its development: the development though, not the introduction of the germ. Further, that as some types of the parasite are highly amenable to the drug given therapeutically, similarly its prophylactic power will be greater against such; thus, one may confidently expect it to be a timely prophylactic as against the benign tertian, but less active against the malignant tertian. The value of the drug is not to be underrated in consequence of it being given in too routine a fashion, and

<sup>23</sup>Brit. Med. Jour., June 9, 1900.

<sup>24</sup>Brit. Med. Jour., Feb. 10, 1900.

<sup>25</sup>Brit. Med. Jour., Jan. 1, 1900.

often under conditions in which it cannot be absorbed, as in states of severe gastro-intestinal catarrh. Such failures should be eliminated in assessing its prophylactic value. It is recommended that, in future, experiments in prophylaxis be made with the aid of the microscope, and in reference to the particular type of malarial parasite it is used against, and also that the gastro-intestinal condition of the individual experimented upon be investigated and recorded.

Pola<sup>26</sup> experimented on 736 soldiers; of 500 who took quinine 18 per cent. were attacked, while of the remainder who did not take quinine 28 per cent. had malarial attacks.

Carré<sup>27</sup> believes quinine diminishes the chance of infection in the simpler forms of fever, but is well-nigh useless in the pernicious forms.

**Treatment.**—An editorial<sup>28</sup> says that the first systematic attempt on a large scale to grapple with the problem of how best to combat malaria in the light of recent discoveries is about to begin in the Argo Romano, and the following is a translation of the instructions issued by the Bureau of Hygiene of Rome to the medical men who are to engage in this campaign.

In primary malarial infections the administration of quinine in tabloids, each containing  $1\frac{1}{2}$  gramme ( $7\frac{1}{2}$  grains) of the sulphate should be recommended during the subsidence or at the end of the febrile attack. The quantity administered should be 2 grammes (30 grains) daily for three successive days and 1 gramme (15 grains) daily for other four days. Tabloids sufficient for a week's treatment are to be given in a small box with appropriate directions to each patient. After the remedy has been suspended for five days it will be well to fol-

low the directions for relapsing cases even though there be no return of the fever. Hypodermic injections are only to be employed in exceptional cases. The medical officer is recommended to supervise the treatment of primary aestival infections in which the fever of the first attacks should be suppressed as far as possible, experience having proved the importance for prophylaxis of early treatment.

In relapsing malarial fevers the administration of sulphate of quinine should be carried out as follows:—

After the last febrile attack, or during its decline, 2 grammes (30 grains) of the quinine in four tabloids are to be given. The following day the same doses are repeated. During the next five days 1 gramme (15 grains) of sulphate of quinine in two tabloids is administered, after which the treatment is to be suspended for a week. The following week the administration is to be resumed, the patient being supplied with the same quantity of quinine as in the first week, and the quantity taken regulated as before. When the fever no longer returns the daily dose should be reduced by one-half. The administration is then to be again suspended for a week. In the fifth week the same amount is to be given in the same way as in the third week, and so also during the seventh week. As a rule, it is not necessary to continue the administration beyond the seventh week. During the weeks in which the quinine is suspended, the physician may, if he thinks proper, administer "Bacodil's mixture" or capsules and tabloids containing iron.

The treatment of the fever, whether primary or secondary, should be continued according to the scheme laid

<sup>26</sup> *Brit. Med. Jour.*, Aug. 14, 1900.

<sup>27</sup> *Ibid.*

<sup>28</sup> *Journal*, July 4, 1900.

down, even when the last attack has occurred some days previously. Whenever the fever asserts itself it is best to recommence the treatment as for the first day and to continue according to the rules prescribed. The total dose of quinine should be given within two hours: *i.e.*, at intervals of half-hour, three-fourths of an hour, or one hour, according to the fractions. A glass of water should, if possible, be drunk after every tabloid, acidulated, by preference, with lemon or vinegar. In children the doses should be reduced in proportion to age.

Hypodermic injections are reserved for cases of intolerance of quinine by the stomach and for cases of pernicious fever. In these cases two hypodermic injections are made, each of 1 gramme (15 grains) of the bihydrochlorate of quinine dissolved in 5 grammes ( $1\frac{1}{4}$  drachms) of distilled and sterilized water. A large syringe is employed, the lateral regions of the abdomen being chosen and the skin washed with gauze and absolute alcohol. The needle should also be sterilized with absolute alcohol or by boiling in a test-tube. The hypodermic solutions in sterilized vials, each containing 1 gramme (15 grains) of bihydrochlorate, will be supplied to the medical officer. The patient must then be conveyed to the temporary hospital or to the city. In the hospital injections of camphorated oil and caffeine will be made. During the two subsequent days 2 grammes (30 grains) of quinine must be given daily either by injection or by the mouth, one tabloid of  $\frac{1}{2}$  gramme ( $\frac{1}{2}$  grain) every hour. The intravenous injections according to Baccelli's method will be made in extreme cases in the sanitary station hospital. For these injections boiled solutions of neutral hydrochlorate of quinine at a temperature of  $40^{\circ}\text{C}$ . ( $104^{\circ}\text{F}$ .) should be employed exclusively in

doses of 1 gramme (15 grains) in 10 cubic centimetres ( $2\frac{1}{2}$  drachms) of chloride of sodium solution (0.75 per cent.).

Robert Koch<sup>29</sup> believes that, in order to master malaria, 1 gramme (15 grains) of quinine should be given to the sufferer from malaria in the afebrile intervals—almost always in the morning hours—until the malarial parasites have disappeared from his blood; then follows an interval of seven days; then again 1 gramme (15 grains) of quinine on each of two successive days; then another seven days' interval; again two days of drugging with quinine, and so on, for at least two months.

W. J. Buchanan<sup>30</sup> says that the Indian gaol experience has settled that it is possible to daily administer preparations of quinine for many months at a time without the slightest mischief resulting. For the past five years quinine or cinchonidine has been personally administered daily to, on the average, over 1600 prisoners for the four months of the rainy season, and never has a single bad result been met with; even severe cases of quinism are conspicuous only by their rarity. It is needless to say that in spite of Professor Koch's alarmist views on the subject of quinine and hamoglobinuria, there has not been a single case in personal experience nor has there been found after inquiry such a case since the practice was introduced into the prisons of India.

Parrie Manson<sup>31</sup> observes that the treatment of malaria resolves itself into one word: the use of quinine. Quinine is a specific, and, if the specific is properly applied, in 99 cases out of 100 the patient can be saved from the effects of the para-

<sup>29</sup> *Deutsch. med. Wochs.*, Apr. 26 and May 3, 1900.

<sup>30</sup> *Brit. Med. Jour.*, Sept. 1, 1900.

<sup>31</sup> *Lancet*, July 21, 1900.



site. In cases of violent remittent fever and grave cerebral attacks the patient may be vomiting and unable to absorb the drug, or he may be insensible and unable to swallow it. Then 5 or 10 grains of a soluble salt of quinine must be given hypodermically or rather intramuscularly. Death from tetanus following on the hypodermic injection of quinine is caused by the culpable carelessness of the physician who, in ignorance, of course, has used an injection containing the tetanus bacillus.

A certain number of patients appear to have peculiar sensibilities as regards the action of quinine. In some it gives rise to urticaria, in some to peculiar toxic effects, and therefore to some patients it cannot be given at all. In these cases methylene-blue is of service. Professor Koch is one authority for its use. It is given in doses of from 3 to 5 grains three or four times a day. Another and graver accusation against quinine is that it is apt to give rise to hæmoglobinuria. Professor Koch's utterances in regard to this have been somewhat misunderstood. Many people suppose that Koch said that quinine gave rise to—is the cause of virus, as it were, of—hæmoglobinuria. What he did say was that quinine under certain conditions brought on hæmoglobinuric symptoms, and what he said is, in personal opinion, true. In consequence of what he has said quinine is looked upon with suspicion, if it be not absolutely tabooed, in some tropical countries. This is unfortunate, for, even if quinine is a danger in certain cases, if it does tend to produce hæmoglobinuria in some cases, it is not a one-hundredth part so dangerous in this respect as the malarial parasite.

In cases of black-water fever one should examine the blood, and, if in it is found the fever forms of the malarial parasite, quinine is to be given; if the parasite is not found, quinine is to be withheld.

M. H. Billet,<sup>32</sup> attached to the military hospital at Constantine, Algeria, says that 13 cases of malarial cachexia more or less pronounced, and consequent upon repeated attacks of intermittent fever of varied type, have been treated with cacodylate of sodium. This drug, following immediately on treatment by quinine, restored the red blood-cells from about 3,500,000 (in cases 2,500,000 per millimetre) to normal, and even above that, viz.: to upward of 5,500,000, in the space of from fifteen to twenty days. The number of injections was from five to six, at intervals of three or four days, the dose employed being  $3\frac{3}{4}$  grains for each injection. In two or three cases  $1\frac{1}{2}$ -grain doses were used. The hæmoglobin proportion was raised simultaneously with the increase of red blood-corpuscles from between 9 and 11 per cent. to, progressively, 11, 12,  $12\frac{1}{2}$ , and  $13\frac{1}{2}$  per cent.—or almost normal. The weight likewise followed an ascending progression. This treatment following upon quinine is considered as distinctly restorative from the effects of malarial cachexia.

C. J. Whalen<sup>33</sup> affirms that guaiacol surpasses any remedy so far recommended for malaria. In personal experience it has cured every case, in some of which quinine had been previously tried and failed.

<sup>32</sup> *Jour. Amer. Med. Assoc.*, Aug. 23, 1900.

<sup>33</sup> *Med. Rec.*, Apr. 1900.

## Cyclopædia of Current Literature.

### ABDOMINAL SECTION, AFTER-TREATMENT OF.

In cases of hysterectomy which are accompanied by a good deal of shock, and in cases where the patients are feeble or collapsed, a nutrient enema of 2  $\frac{1}{2}$  ounces of beef-tea and  $\frac{1}{2}$  ounce of brandy should be given within an hour or two and repeated every four or six hours. Nothing is given by the mouth for twenty-four hours unless there be no sickness and the patient craves for some fluid. She may in that case commence six hours after the operation to take a teaspoonful of hot water every hour. Where the sickness and retching are very persistent and troublesome the administration of  $\frac{1}{2}$  pint of hot water with 20 grains of bicarbonate of soda dissolved in it will often act most beneficially. Opium in any form should, if possible, not be given. After twenty-four hours nourishment can be taken (provided there is no sickness). Most patients crave for a cup of tea (about 4 ounces) with plenty of milk, and every hour afterward  $\frac{1}{2}$  ounce of equal parts of milk and hot water can be given. When the sickness continues everything should be stopped by the mouth and the patients should be fed per rectum.

The two great dangers after abdominal section are, in personal experience, shock and tympanites from intestinal paralysis. The shock is combated by hypodermic injections of 3 minims of solution of strychnine three times a day. For tympanites the plan is to try to prevent its occurrence by having a soft rectal tube passed up the bowel every four hours, and if after twenty-four hours flatus is not freely passing either naturally or by the tube, an enema containing an ounce of oil of turpentine to a pint of hot water is injected high up and, if necessary, is re-

peated two or three times a day. Once the escape of flatus is satisfactorily established the patients almost invariably do well. William Duncan (*Lancet*, July 7, 1900).

### ACUTE ALCOHOLISM TREATED BY LARGE DOSES OF DIGITALIS.

As a result of studying the carefully-kept records of ten hospital cases and from personal experience in the use of the drug a year ago in six cases, the following may be stated as personal conclusions: 1. The indiscriminate use of large doses ( $\frac{1}{2}$  ounce) of digitalis in acute alcoholism is fraught with danger. 2. The kind of cases in which it should be given are the strong, robust patients in early life, suffering from no complications, and with violent delirium. In these cases the result will be exceptionally favorable. They become quiet, go to sleep with a certainty and promptness that is not obtained by other methods. 3. If after three doses no narcotic effect is noted a continuance is not advised. In the above class of cases it can be used with perfect safety for a limited number of doses. 4. The failures in personal cases were in chronic alcoholic subjects, in middle and advanced life, in anæmic individuals with bad nutrition. 5. One fact noted in the cases which showed marked results from the treatment was that when they recovered and awoke from their sleep they were in such good condition that they were able to leave the hospital at once. This is an unusual experience, as ordinarily convalescence is delayed for two or three days. H. P. Loomis (*Med. News*, Aug. 18, 1900).

### ANÆSTHETICS AND URINARY SECRETION.

The effect of anæsthetics upon urinary secretion has been personally studied on

dogs, the urine being usually obtained through a cannula in the ureter, though occasionally from the bladder. The anæsthetics studied were (1) ether, (2) chloroform, (3) the A. C. E. mixture, and (4) ether-chloroform (2 to 1). Ether usually produced diuresis, with increase in the total nitrogenous excretion. Chloroform, on the other hand, generally reduced the quantity of urine as well as the total nitrogenous output; the diminution, however, was followed by increase in both during the hour following the anæsthesia. The immediate effects of the A. C. E. mixture were variable, but its administration was invariably followed by diuresis. The ether-chloroform (2 to 1) mixture produced negligible effects on the renal secretion. After all anæsthetics the urinary chlorides were reduced in quantity. Albuminuria also occurred in some cases, probably rather from hæmorrhage due to mechanical injury than to renal disturbance. Grape-sugar was found in most cases after anæsthesia. Glycuronic-acid compounds and pentose could not be detected. W. H. Thompson (*Lancet*, Aug. 25, 1900).

### ANASTOMOSIS OF URETERS WITH INTESTINE.

The general conclusions regarding anastomosis of ureters with intestines are as follow:—

1. The primary mortality of uretero-intestinal anastomosis both in experimental work on animals and in man is exceedingly high.

2. The best technic is that requiring the least amount of suturing of the ureters themselves.

3. All efforts to prevent ascending renal infection in animals or in man where the ureter has been implanted without its vesical orifice have proved futile.

4. It is impossible to determine in ad-

vance the extent of the infection which will result from uretero-intestinal anastomosis. The patient may die in a few days of a pyæmia or in a short time of pyelonephritis or, in rare cases, may recover from the infection with resulting contracted kidneys.

5. Hence the operation is unjustifiable, either for the purpose of making the patient more comfortable, as in cystopty of the bladder, vesico-vaginal or uretero-vaginal fistula, or for malignant disease of the bladder.

6. The results of uretero-intestinal anastomosis through the formation of vesico-rectal fistulæ have not been favorable up to the present time.

7. The success of Frank's experimental work in vesico-rectal anastomosis justifies the expectation that the future results of this operation will be more satisfactory.

8. The primary mortality of uretero-trigono-intestinal anastomosis is low for an operation of this magnitude.

9. While it cannot be denied that ascending renal infection may occur after this operation, the infection, as a rule, is of such a type that the chances of the individual overcoming it are good.

10. Hence, the operation of implanting the vesical flap with its ureteral orifices into the intestine is a justifiable surgical procedure.

11. There is no valve guarding the vesico-ureteral orifice; nor does the circular muscle layer of the ureter or the bladder-muscles themselves act as a sphincter.

12. It has been abundantly demonstrated by experimental and clinical work that the rectum tolerates the presence of urine and acts as a good substitute for the bladder and that good control over the anal sphincter will be maintained. (Rothman Peterson (*Med. News*, Aug. 11, 1900).



### ANTITUBERCLE SERUM AS AN AUXILIARY TO CLIMATIC TREATMENT.

The reports of cases of tuberculosis treated with antitubercle serum under unfavorable climatic conditions are comparatively meagre, but as far as they go the results seem to have been unsatisfactory. Therefore, it would seem as though, instead of a hoped-for specific, we have in antitubercle serum simply another auxiliary to climatic, hygienic, and dietetic treatment. Its comparative greater merits as such an agent in the treatment of cases in the incipient stage seem to place it ahead of all other recognized agents in a large majority of instances. Its greater value may not be so well demonstrated in its immediate effects as in the fact that, apparently, there is established an immunity, the duration of which is as yet not determined, and can only be measured by years of observation.

In this connection it may be noted that, among patients apparently cured while taking creasote as an auxiliary to climatic influences, a few instances of relapse have occurred. Finally, the results of two years' further study of the subject would seem to indicate: 1. Further confirmation of the conclusions of the preliminary paper in 1898. (a) The use of serum does not tax the functions of digestion or produce gastritis, diarrhoea, or loss of appetite. (b) In cases wherein bacilli have disappeared, they have been lost while the sputa were still present, whereas in creasote cases the last specimens of sputa still contain bacilli. 2. Immunity seems to be established in apparently cured cases, capable of protecting the patient effectually in his old environment at least two years, and perhaps for a longer period. 3. The fact that cases for treatment must be selected, even among those in the incipient stage

### BUBO, THE ABORTIVE TREATMENT OF.

and that it is less effective in low altitudes and city environment, conclusively ranks antitubercle serum among the auxiliaries to climatic treatment of phthisis, rather than as a specific. J. E. Stubbart (Med. News, Aug. 18, 1900).

### APPENDICITIS: WHEN TO OPERATE.

In answer to the question when to operate in appendicitis, personal method is:—

*When the diagnosis is made, except*

(a) When the environments are bad.

(b) When no experienced operator or proper facilities are at hand.

(c) In mild, first attacks. J. H. Carstens (N. Y. Med. Jour., Aug. 1, 1900).

### BUBO, THE ABORTIVE TREATMENT OF.

The highly-satisfactory results obtained recently in the Philadelphia Polyclinic in the abortive treatment of bubo justify the statement that it merits much more attention than it has hitherto received at the hands of the profession.

The method pursued during the past year aims to bring about resolution in the gland by the direct application, in the form of an ointment, of drugs alterative in character, combined with steady pressure obtained from the use of a spica bandage. The ointment used for this purpose is made up as follows:—

R Ung. hydrarg.

Ung. belladonnæ,

Ichthyol.,

Lanolin., of each, 2 drachms.—M.

If the bubo be seen early, no heat or redness being present, a piece of surgical lint spread with the ointment is applied directly to the swollen gland; over this is placed a piece of oiled silk of the same size. A large pad of cotton is next applied, and firm continuous pressure is ob-

tained by the application of a wide spica-of-the-groin bandage, two bandages being employed. This treatment is applied every other day until, in cases where it acts successfully, entire resolution of the bubo is accomplished: usually a period of from ten days to two weeks.

Twenty buboes have been treated in this manner during the past year in the Genito-Urinary Dispensary of the Polyclinic. Of these 12 were successfully aborted, 8 of the cases following gonorrhoea, and 4 accompanying chancre. Resolution occurred in these cases in from two to three weeks, and was evidenced by the total disappearance of the enlarged gland at that time. Of the 8 cases where the abortive treatment failed, 6 were cases of tubercular adenitis. In these instances, however, it was early apparent that resolution would not occur, and that surgical measures should be resorted to. H. M. Christian (*Ther. Gaz.*, Aug. 15, 1900).

### CARCINOMA OF THE STOMACH WITH INCREASED HYDROCHLORIC ACID.

In a series of 16 cases of carcinoma of the stomach hydrochloric acid was present, although the absence of this acid is ordinarily considered the most characteristic symptom of this disease. In 12 of the cases the diagnosis was confirmed by operation or post-mortem examination, and 6 have clinical histories highly suggestive of a preceding ulcer. Hydrochloric acid was continuously present in 13 cases, and for a time was found in the other 3, where it was later replaced by lactic acid. The pylorus was involved in 7 cases, the pylorus and lesser curvature in 2, the lesser curvature alone in 1, and the growth was diffuse in 1 case. Lactic acid was present late in 4 patients: in 3 replacing the hydrochloric acid and in 1

associated with it. All suffered greatly from vomiting; retention determined by the presence of sardina or food was well marked; emaciation and loss of strength were striking in every case, and the appetite was poor in most of the cases. A. MacFarland (*Albany Med. Annals*, July, 1900).

### CHLORETONE, A NEW HYPNOTIC.

Chloretone is capable of producing anæsthesia to almost any degree, varying with the amount taken. It acts not only upon the central nervous system, but as a local anæsthetic as well. Aside from its reliability, it has one marked advantage over many other local anæsthetics in that it does not produce temporary local anæmia, as is the case with so many local anæsthetics, and consequently does not interfere with repair processes. It is also quite a powerful germicide, as has been demonstrated by laboratory experiments, as well as clinically.

This drug has a wide field of usefulness. In insomnia, which may result from various causes, such as nerve-exhaustion, clinical reports show that it is without an equal. It has been found particularly useful in the treatment of those nervous disorders in which morphine has been used until it no longer produces the desired results. In delirium tremens it is the ideal remedy, as it does not destroy the protoplasm of the nerve-cell, and its action has not an initial stimulating stage, neither does it depress the already-overtaxed circulatory system. The fact that it is not irritating to the alimentary tract, but, on the contrary, has a local anæsthetic action, makes it particularly efficacious in this disease on account of the extreme irritation of the stomach, with its consequent nausea, which is so often present.

As a local anæsthetic and antiepileptic,

chloretone has been personally found superior to other remedies of this class. It is a very efficacious anæsthetic in the removal of tonsils and in anæsthetizing the membrane of the nose before applying severe treatment to that organ. Bougies of chloretone not only are useful in anæsthetizing the urethra before the passage of sounds, but have a marked action upon the specific germs of urethritis. To relieve the pain after strong injections in cystitis, irrigation with the 1-per-cent. aqueous solution is particularly beneficial. In dentistry it has been used with the best results as a local anæsthetic in minor operations about the mouth, as well as for an application to exposed nerve-pulps. In minor surgery an aqueous solution (0.8 per cent.), applied to raw surfaces, will not only afford great relief from pain, but also render the field of operation sterile. The powder may be used directly on the wound with the best results.

Chloretone is, perhaps, the safest of all hypnotics. One case is recorded of the administration of 120 grains within twenty-four hours without any more serious result than the production of five days' sleep, barring a few slight interruptions.

The remedy should be given freely and fearlessly, from 15 to 20 grains at a dose in severe cases, and repeated often enough to produce the desired effect. Less than 10-grain doses seem to be useless when pain is present. The ordinary aqueous solution is not strong enough to produce marked local anæsthesia, except under the most favorable circumstances. For hypodermic use, a saturated solution of chloretone in a mixture containing 15 per cent. of alcohol and 85 per cent. of water is sufficiently strong to produce local anæsthesia for minor operations. A still more powerful local anæsthetic may be produced by mixing equal parts of chlo-

retone and ether. This is particularly useful to dentists as an application to the nerve-pulps when it is advisable to remove them. W. B. Hill (N. Y. Med. Jour., Aug. 18, 1900).

### EMPHYEMA.

**Treatment.**—To summarize the treatment of empyema, the following propositions seem tenable:—

1. Empyema is best prevented by promptly evacuating all considerable inflammatory effusions.

2. In the diagnosis of these effusions, by means of exploratory aspiration, the skin should be punctured by a tenotome at the point where the needle is to be driven in.

3. Serous effusions are best evacuated by aspiration. If they reaccumulate after the third evacuation, they should be subjected to continuous siphon-drainage, the puncture being made by a small trocar and cannula, the latter being of such size that a small drainage-tube may be slipped through it.

4. Recent empyemata are best treated by continuous siphon-drainage, the tube being introduced through a cannula of at least the diameter of the little finger.

5. When, because of a narrow intercostal space or because of constant blocking with fibrinous material, siphon-drainage thus provided is inadequate, an inch of one of the ribs (usually seventh or eighth) should be resected, and a drainage-tube the diameter of the thumb should be used.

6. When the conditions are such that it is obviously impossible for the lung to expand under the influence of siphon-drainage and respiratory exercises, Delorme's operation of stripping the pseudomembrane from the compressed lung should be attempted.

7. When Delorme's operation is im-



practicable, a resection of the ribs (Estlander) or of the chest-wall and thickened pleura (Schede), corresponding in extent to the size of the underlying cavity, is indicated. Edward Martin (*Ther. Gaz.*, Aug. 15, 1900).

### ENTEROCOLITIS.

**Treatment.**—Tannopine, owing to its freedom from odor and its perfect and prompt action, is particularly worthy of trial in the treatment of intestinal disorders, as it, unlike other astringent drugs, is not decomposed in the stomach or rendered inert through insoluble combinations in the upper part of the intestinal canal. This objectionable feature with the class of drugs heretofore used as intestinal astringents has been completely eliminated in the preparation of tannopine, which fulfills all the requirements of a true intestinal astringent, and possesses the following advantages: 1. It can be prescribed with efficiency both by the mouth and per rectum, with sterilized water and aqua calcis. Used with a long rectal tube it washes and cleans out the colon, which, owing to the superabundance of lymphoid tissue in its make-up, is essentially absorptive in function, this function being necessary for the rapidly-growing infant; and when tannopine is thus administered, in plain chalk mixture, it splits up into its constituent compounds and is easily absorbed by the inflamed tissue ready to take it up. 2. It is an efficient medicament in all forms of enteritis, colitis, and inflammatory intestinal disorders. 3. It is advisable to continue the use of the drug in small doses for a few days after the bowels appear to have regained their normal function. 4. It is a completely innocuous powder, and can be administered without risk to the smallest infants, in doses of from 3 to 8 grains, four times

daily; and to older children and adults from 1 to 15 grains, several times daily. 5. It acts by the tannic acid of the compound combining with albuminous substances, forming albuminates, which causes contraction of the surrounding connective tissues, diminishes reflex activity, and relieves sensibility of the muscular tissue. Urotropin,  $(CH_2)_6N_4$ , the second constituent of this division which takes place in the alkaline intestinal contents, acts as a disinfectant by inhibiting the septic organisms and restoring the integrity of the intestinal mucous membrane, stopping short the process of inflammation. W. E. Fitch (*N. Y. Med. Jour.*, Aug. 18, 1900).

### EXSTROPHY OF THE BLADDER: A NEW METHOD OF OPERATION.

In a boy 5 years of age, after the margins of the protruding bladder-wall were freed, the incision-line running through healthy tissue as much as possible, they were dissected back to the extent of about one centimetre. When it was ascertained that the freshened margins could be approximated without tension, both recti muscles were exposed and incised along their internal margins to the extent of a little less than half their thickness. Two transverse incisions, connecting the outer and inner margins of each rectus muscle and extending down into the substance of the muscle to the same extent, completed the outlining of the flaps. The lower incision-lines were as near the symphysis as possible, and the other one was below the umbilicus. Beginning at the internal margin of the incision, the upper layers of fibres of the recti muscles were divided, until the flaps so formed could be lifted near the outer margin, with which they remained connected after the removal of a large

The bladder-wall now being united

with thin iodoform-silk sutures, the reflected muscular flaps were united above. The subcutaneous suture was chosen for the integument, which was supported by four relaxation-sutures, also consisting of iodoform-silk. They were applied three-fourths of an inch distant from the wound-margins, so that there was no direct contact with the wound-line.

Thus, a small, but virtually normal, bladder was secured, protected by a firm muscular layer, which is likely to distend later on. (Carl Beck (N. Y. Med. Jour., Aug. 25, 1900).

### EXTRABUCCAL FEEDING.

Guided by personal experience, the following combination is believed to be the one to be most recommended in rectal nutrient enemata: Two tablespoonfuls (40 grammes) of wheat-flour are stirred into 2  $\frac{1}{2}$  ounces of lukewarm water or milk, and to this mass 1 or 2 eggs with a pinch of salt (3 grammes) are added, and the whole is beaten up with 1  $\frac{1}{2}$  to 3 ounces of a 15- to 20-per-cent. glucose solution. The addition of a small amount of albumen—*e.g.*, in the form of a glass of claret—acts as an analeptic. Such an amount corresponds to about 450 calories, of which, to be sure, only a portion fulfill their physiological destiny. The nutritive value of such a combination may be increased by varying its constituents and adding some peptone preparation: for example, one of the newer food-products, such as eulactol or plasmon. But it must not be forgotten that, the more complicated the composition of an enema, the greater the difficulty of its application in private practice, and the more probable the production of irritation of the intestinal mucosa and its early expulsion. Finally there remain to be mentioned the nutritive enemata in concen-

trated form, consisting of suppositories of peptonized meat or peptonized milk.

Extrabuccal feeding does not completely replace feeding by mouth, and is not permanently capable of answering the demands of metabolism. In most cases in which this method exclusively is resorted to a state of malnutrition sets in from the outset. An exception to this rule occurs in those cases of gastric fistula in which the operation is necessitated by a benign stricture of the œsophagus.

For a short time, in weakened individuals whose metabolism is below normal, it may be possible through extrabuccal feeding to increase the nitrogen conversion and even to cause an accumulation of nitrogenous substance and fat.

The best results are obtained when it is a question of a temporary replacement of the natural feeding *per os*, or when extrabuccal feeding is resorted to as an accessory measure to the former.

Nutritive enemata are to be preferred to the subcutaneous injection of oil. The applicability of the latter lies rather in isolated cases than as a measure adapted to wide-spread use in practice. C. A. Gould (Med. Record, Aug. 18, 1900).

### FORMALIN AS AN ANTISEPTIC.

The strength of a solution depends on the amount of formaldehyde it contains, but one writer will speak of a 1-per-cent. solution of formalin and another of a 4-per-cent. solution of formaldehyde.

One must take into account that the latter is two and a half times stronger than the former. Formalin is a 40-per-cent. saturation of formaldehyde. But formalin is a definite substance, and is the simplest form in which formaldehyde is employed as an antiseptic in surgery; hence the percentage of a given solution should be that of formalin, and not that of formaldehyde.

A  $\frac{1}{4}$ -per-cent. solution of formalin equals a 1 to 1000 solution of formaldehyde. The quantity of formalin to make such a solution is so small that a dilution of some known strength is found to be convenient from which to prepare the working solutions as they are needed.

A 4-per-cent. solution is most convenient for this purpose: first, because it is easy to make by adding 1 ounce of formalin to  $1\frac{1}{2}$  pints of sterilized water; or 5 ounces to  $7\frac{1}{2}$  pints fills a gallon bottle ready for use; secondly, this 4-per-cent. solution mixes in even ounces and half-ounces to make the ordinary solution used in practice.

A table showing this in full is as follows:—

Half-ounce of 4-per-cent. solution to  $15\frac{1}{2}$  ounces of water equals  $\frac{1}{2}$ -per-cent. formalin, equals  $\frac{1}{2000}$  formaldehyde.

One ounce of 4-per-cent. solution to 15 ounces of water equals  $\frac{1}{4}$ -per-cent. formalin, equals  $\frac{1}{1000}$  formaldehyde.

One and one-half ounces of 4-per-cent. solution to  $14\frac{1}{2}$  ounces of water equals  $\frac{3}{8}$ -per-cent. formalin, equals  $\frac{1}{666}$  formaldehyde.

Two ounces of 4-per-cent. solution to 14 ounces of water equals  $\frac{1}{2}$ -per-cent. formalin, equals  $\frac{1}{500}$  formaldehyde.

Two and a half ounces of 4-per-cent. solution to  $13\frac{1}{2}$  ounces of water equals  $\frac{5}{8}$ -per-cent. formalin, equals  $\frac{1}{400}$  formaldehyde.

Four ounces of 4-per-cent. solution to 12 ounces of water equals 1-per-cent. formalin, equals  $\frac{1}{250}$  formaldehyde.

Formalin is sold in bulk, under various names, but it is best to get Schering's or some equally reliable make in original pint bottles. This is of uniform 40 per-cent. formaldehyde strength and will not deteriorate before the bottle is used. G. E. Crawford (National Med. Review, July, 1900).

## FRACTURE, METACARPAL.

If the displacement is in the dorsal direction, it is not only easily recognized, but also reduced and kept in place without difficulty by coaptation-splints. But if the displacement is sideways, the result may be very unsatisfactory, the remaining deformity and disturbance of function being considerable. If a common laborer is concerned, but little inconvenience may be caused by it; but, if a person whose hands must do delicate work is the victim, badly-united metacarpal fragments of the right hand may seriously interfere with his work.

Reduction of the displaced fragments never offers any insurmountable obstacles; but to hold them in place is a far more complicated task.

If the immobilizing dressing is perfect, the formerly-displaced fragments must be found in exact apposition, when photographed through the dressing. Various experiments have proved that the metacarpal fragments are invariably held in place by elastic pressure. For this purpose, two rubber drainage-tubes of moderate size are chosen, which are tightly pressed into the adjoining interosseous spaces, so that they fill them to a certain extent. They are kept in situ by adhesive-plaster strips passed around the hand. Thus, the recurrence of the displacement is prevented. The whole is surrounded then by a moss splint, a material which, after being dipped in cold water, adapts itself to the contours of the hand like a plaster-of-Paris splint, over which it possesses the great advantage of being absorbent and much lighter.

The Roentgen rays should be consulted before one is satisfied as to the question of unassailable union. Carl Beck (N. Y. Med. Jour., Aug. 4, 1900).



**GOUT.**

Gout is more or less chronic, and depends on an hereditary diathesis which is almost always congenital, and to which the name of uric-acid diathesis has been given. The close relations which exist between uric acid and the nucleins render it probable that in the uric-acid diathesis there is an abnormal state of the cellular nuclei or of the protoplasm of the individual in question. The individual predisposition, which can be followed through whole families and successive generations, is a very important feature of the uric-acid diathesis. A variety of conditions seems to contribute to the development of the uric-acid diathesis and to its transformation into actual gout, some of them being as follows: (1) all the circumstances being equal, gout manifests itself earlier and with more severity when the uric-acid diathesis is well marked than when it is not; (2) personal habits, such as idleness and luxurious living, or the combination of these two in a high degree, or the abuse of alcohol, favor the development of gout, and temporary variations may very often be attributed to those conditions; (3) certain acute and chronic toxic influences in presence of the uric-acid diathesis favor the development of gout, among which some bacterial toxins are of great importance, and the relations of gout to rheumatism, syphilis, lead poisoning, and influenza must be kept in mind; and (4) neither contagion nor climate has any influence as regards gout. It is probable that it is only the uric acid formed at the expense of the nuclein substances of the human body and not that formed at the expense of the nucleins of the food, which has an influence on the pathogenesis of gout. It is not yet proved that in gout uric acid is formed in excess; an increased formation of it

is not indispensable, but is nevertheless very probable. In order to understand the pathogenesis of the different symptoms of gout, it is necessary to presume the existence of primary articular gout and primary renal gout. The former is the commonest variety of gout, and does not prevent the patients from attaining an advanced age. Primary articular gout develops itself at first under the influence of retained uric acid, this retention being localized because it affects only a single part or some parts of the human body. In primary renal gout there is, from the outset, a generalized retention of uric acid which affects all parts of the body, and is always caused by primary structural disease of the kidneys. W. Ebstein (Phila. Med. Jour., Aug. 25, 1900).

**HÆMORRHAGE, MIDDLE MENINGEAL.**

**Treatment.**—In trephining for middle meningeal hæmorrhage the rule is to put the trephine at a distance of from one and a half to two and a half inches from the external angular process, and the same distance above the zygoma. Whatever distance one goes behind the external angular process, he must go above the zygoma. The best plan, and one personally followed, is to take two inches from these situations. When trephining for the middle-meningeal hæmorrhage, directly the periosteum has been separated from the skull the surgeon should look for a fissure in the bone. That fissure will show itself as a very slight elevation, which can be felt with the finger-nail, along which blood will be oozing up. If such a fissure is seen in the bone it is, to a certain extent, confirmatory evidence in favor of the diagnosis of ruptured middle meningeal artery. But if it is not seen, this by no means negates the diagnosis, because

there may be laceration of the middle meningeal with only fracture of the internal table, or it may occur when there is no fracture at all, but the dura mater has been simply shaken off the bone, the artery being torn in the process. For removing the ring, about an inch trephine should be used, and, when the bone has been taken out, it will be found, if the diagnosis be correct, that blood immediately wells up into the wound, or the bottom of the wound is full of blood-clot, and probably the bleeding will still be going on.

If the bleeding has stopped when the clot is exposed, a blunt spoon should be used to take away a *little* of the clot. Not all of it should be removed, but just enough to relieve the pressure. The removal of a certain amount of clot will probably relieve the compression, which is all that is wanted.

Should, however, the vessel be still bleeding, then the thing is to attempt to get hold of the vessel. If the vessel is lying in the groove in the bone, or in a canal in the bone, all one has to do is to plug the canal with a little sterilized wax, or, if preferred, with sterilized silk or catgut. The most common event, however, is for the artery to be lying at the bottom of a deep hole, and between it and the operator there is a lot of blood-clot. The blood-clot must be removed and he must try and find the bleeding spot. A sponge may be used to keep pressure on the bleeding spot. If when it is taken away the artery starts bleeding again, an effort should be made to pick the artery up, and ligature it. If it cannot be picked up, but if it can be seen a thread and a very small needle should be passed through the dura mater on one side of the artery, and up through the dura mater on the other side of the artery, and the whole thing tied in together.

In a certain number of cases one cannot get at the artery even in this way. The proper course would be to clamp away more bone, provided, under the circumstances of the case, it seems feasible.

One may be obliged to tie either the common or the external carotid.

One of the best plans to follow before resorting to ligaturing in continuity is to make a dressing mixture of iodo and salt and put it over the side of the man's head and neck, as far as possible, and prop him up in a more or less upright position. In two cases personally seen this stopped the artery bleeding pretty quickly. C. Stonham (Clinical Jour., Aug. 15, 1900).

#### MASTOIDITIS, ABORTIVE TREATMENT OF ACUTE.

When the case presents itself for treatment one usually finds an inspection either a purulent discharge coming from the external auditory meatus of the affected side or a serous discharge. In a very small number of the cases no discharge of either character is found, and on inspection of the drum-membrane shows, usually, a bulging, with a general redness over the whole surface of the drum and also marked congestion and swelling of the superior and posterior canal walls. In about half the number of cases coming under observation there is, in addition, marked tenderness over the mastoid. In all cases so coming under observation, if the middle ear is not being drained sufficiently through the opening made for Sayre, then this opening is enlarged by a few incisions and if the upper portion of the middle ear is still be involved this incision is extended upward, opening Shrapnell's membrane and still continued outward and backward through the frames of the superior canal wall, thus making what has some-

times been called an internal Wilde incision. Rarely has a swelling of the superior or posterior canal-walls, due to middle-ear inflammation, been personally seen without a corresponding fullness in the attic region. But should it occur, this incision should be made freely through these structures. This done, the patient is placed in bed, absolute rest enjoined, an ice-coil applied snugly over the mastoid process, a free purgative administered, the canal irrigated every two or three hours (depending upon the character of the discharge) with a warm solution of bichloride of mercury, 1 to 4000, and the patient kept on a fluid diet. The coil is left in position for twenty-four hours, and at the end of this time one usually finds upon its removal much less tenderness than had existed before, and, if all swelling has not entirely disappeared, it has markedly diminished. Inspection of the canal shows much less swelling in the walls where the day before it was marked; the drum-membrane no longer bulges, and has lost much of its inflammatory tint.

If after twenty-four hours of this treatment the tenderness over the mastoid has not almost entirely disappeared, then the coil is reapplied for twelve hours longer, the irrigation kept up as before, and when, at the end of thirty-six hours from its first application, the coil is left off altogether, one has a case where the other mastoid symptoms have ceased, and only a diminishing discharge from the middle ear each day is left to treat, so that in a week's time the majority of these cases are discharged cured and remain cured, unless they contract a subsequent inflammation of those structures.

In a very small percentage of the cases there will still be a marked tenderness over the mastoid at the end of thirty-six hours when the coil is removed. In these

cases, if the temperature be under 100° F., the middle ear draining freely, and there is no increased fullness of the posterior or superior canal-walls, then the coil is replaced once more for a period of twelve hours, and over one-half of this type of cases will from that time convalesce rapidly.

If, of course, at the end of this period all the symptoms and physical signs remain the same or have increased, then there is nothing further to be done but to open the mastoid and proceed with the classical operation. J. F. McKernon (*Med. News*, Aug. 25, 1900).

## MENOPAUSE, THE PSYCHOSES OF THE.

During the past few years a number of women have been received into the Pennsylvania Hospital for the Insane who had been operated upon for the removal of the sexual organs, the majority of whom subsequently had melancholia with many of the usual symptoms attending the menopause, which had been anticipated by surgical interference, showing that whether the grand climacteric is brought on in the course of nature or by the methods of science, the mental results are quite similar when any have appeared.

It has been observed that many women who have been melancholy, or threatened with insanity at the menopause, have at the age of puberty also had serious neurotic or mental symptoms. This circumstance has been cited on which to predicate a probable recurrence at the menopause. The statistics of the Pennsylvania Hospital show that between the ages of 15 and 20, embracing the beginning of the menstrual life in women and the age of puberty in men, 284 men and 276 women were admitted. Between the ages of 45 and 55, covering the usual period



of the menopause, 975 men and 876 women were admitted into the same hospital. From these data it would appear, as far as they indicate anything, that at both of the periods named more men than women become insane. If the menopause alone was a serious and important factor in the production of insanity, it would so appear in the tables. Admitting that melancholia is the most frequent form of mental disease that occurs at the menopause, it would be a logical conclusion that a much larger proportion of cases of this form would occur at this period. The exact percentage of cases between the ages of 45 and 50 was, for men,  $20 \frac{1}{5}$ ; women,  $21 \frac{2}{5}$ ; or practically there was no difference in the sexes. Therefore, outside of the narrow limitations named there is no sufficient clinical experience to warrant the recognition of a distinct class of insanities as due to a normal ending of an animal function that is universal. J. B. Chapin (Phila. Med. Jour., Aug. 25, 1900).

#### NARCOSIS, MEDULLARY, DURING LABOR.

In the lumbar cocainization we have a method which is of the greatest value in producing analgesia, which checks almost entirely the pains of labor without, so far as personal experience goes, the least danger to mother or child. The "parturient," under the influence of cocaine, lies quietly in bed, feeling only some indescribable sensation, but without pain, bearing down when told to, and giving birth to her child without her knowledge, and only cognizant of the fact when the first cry of the newborn is heard.

Complications of a severe grade have never occurred. Such are the observations of Tuttle and Kreis. Disagreeable, although very evanescent, features frequently occur.

The method employed at the New York Maternity Hospital is essentially that of the house surgeon, Dr. Stone. The patient's back, from the coccyx to the middle of the dorsal vertebrae, is thoroughly scrubbed with tincture of green soap and alcohol and ether. This is followed by a saturated solution of permanganate of potash, which is removed by a supersaturated oxalic-acid solution. The entire area is then covered with sterile towels. A needle about ten centimetres long is employed with a metal hypodermic syringe, both of which are boiled ten minutes. The patient is placed on the side with arched back. The thumb of the left hand is placed on the spinous process of the fourth lumbar vertebra. This point may readily be found by locating the deep depression between the spine of the last, or fifth, lumbar and first sacral, the posterior landmark of the external conjugate, or, in very fat women, a line drawn joining the highest points of the crista ilii will pass over the centre of the fourth lumbar vertebra, and is a reliable guide. The needle is inserted half an inch in front of and just outside the edge of the thumb at an angle of about  $165^\circ$ . The direction of the needle is from below upward and without inward. If the point strikes the lamina, it is to be moved gently up or down until the space between the vertebrae is felt. The puncture may be made either between the third and fourth or fourth and fifth sacral. The point is then pushed slowly and gently downward until the spinal fluid is seen running out. Ten minims of a cocaine solution, representing  $\frac{1}{4}$  gr., are now rejected and the needle withdrawn. This is all that is necessary.

Whether remote dangers are to be anticipated from the use of cocaine in this fashion, personal hospital cases are too recent to give any clue; accordingly, such

measures are not as yet recommended in private practice, and will not be so until hospital experience shall fully justify it. S. Marx (Med. News, Aug. 25, 1900).

### OLIVE-OIL FOR GASTRIC CASES.

Personal experience with large doses of olive-oil in cases of severe gastric distress noted. In the first case the young man had suffered from an injury in the gastric region and it seemed probable that a traumatic ulcer had resulted. The pain on eating was so great as to make the patient avoid food. A wine-glass of olive-oil taken before meals gave complete relief. The same remedy was then tried in other cases in which stomach discomfort was a prominent symptom. Even in cases of gastric cancer relief was afforded to many symptoms. In cases of pyloric stenosis most satisfactory results were secured as far as the alleviation of symptoms was concerned. Besides, the dilatation of the stomach that existed began to diminish and in some cases eventually disappeared completely. These were evidently cases of functional or spastic pyloric stenosis and the result was most satisfactory. In some of the cases lavage had been tried for a long time without benefit and in one or two cases with increase of the symptoms. Twelve cases of gastric catarrh were treated by this method with uniformly good results whenever the patients bore the oil well. A certain number of patients, about 1 in 20, cannot take the oil in the doses required; that is, up to about 7 1/2 to 9 ounces per day. In one or two cases this method of treatment was tried as an absolutely last resort before operation and it proved successful. Patients who had lost so much in weight as to appear almost cachectic began immediately to gain in weight, and within a couple of months

gained from 15 to 30 pounds. Cohnheim (Med. News, Aug. 18, 1900).

### ORIENTAL SORE.

Oriental sore is a contagious affection of the skin, of parasitic origin, characterized by the appearance of a shot-like, itching papule or papules, which tend to break down, with the formation of a peculiar pinkish, scaly ulcer, of indolent nature. It is endemic in Morocco, the Sahara, Egypt, Crete, Cyprus, Asia Minor, Mesopotamia, Arabia, Persia, Turkestan, and India, where it is quite common, and is often locally spoken of as "Bagdad boil" or "Delhi boil," because of its prevalence in these localities. The disease most frequently appears upon the hands, feet, arms, legs, or face; at times on the trunk; but never on the palms, soles, or scalp. The resultant scar, after healing has taken place, is pronounced, especially when considerable surface has been involved.

It is claimed that one attack renders the patient to a certain degree immune. B. L. Wright (Phila. Med. Jour., Sept. 1, 1900).

### POST-PARTUM HÆMORRHAGE, ITS PREVENTION AND TREATMENT.

As to prophylaxis, in every case one should never deliver in the absence of pain. Forceps are very dangerous in cases of secondary uterine inertia. In the management of the third stage the conditions must be understood: the nature of the natural separation of the placenta must be studied. It is bad management to squeeze it off the uterine wall, but the uterus must be followed down as the child is born and the hands kept on the uterus, never letting it go. The woman should be turned on her back as soon as the child is born, and then one should wait until the placenta is separated, twenty minutes or longer. One can tell

when the placenta is separated by the fundus uteri rising and the lower segment appearing distended on abdominal inspection, and resembling the distended bladder. Personal practice is to tie the second ligature on the cord just at the vulva, and then one can readily see when the cord descends still farther. As soon as it is clear that the placenta is separated, with the next pain one should gently squeeze out the placenta. In cases in which there has been previous post-partum hæmorrhage, slow extraction and rupture of the membranes early in labor is advised. For the treatment of actual hæmorrhage is advised (1) uterine massage; (2) the injection of hot water. No mercurial preparation should be put into the water. It is not good practice to introduce the hand unless one feels sure from an examination of the placenta and membranes that a portion is left behind. Plugging the uterus by Duhrssen's method is very useful. If packing fails it should be withdrawn, followed by douching and repacking. If that fails Schauta has advised forcible inversion of the uterus and the tying of a piece of gauze around its neck, leaving it on for six hours. In hæmorrhage from wounds in the parturient canal, the diagnosis is made, in the case of wound of the vulva, by inspection; if the wound is in the cervix, the bleeding will go on in spite of contraction of the uterus, and, if a Bozeman catheter is used to wash out, blood will be seen in the uterine stream. The treatment of the wound is, in the vulva, ligature; in the vagina or cervix, ligature or packing. The treatment of the anæmia following hæmorrhage consists in: (1) keeping quiet; (2) saline injections, which are of the greatest advantage; (3) strychnine injections hypodermically; (4) feeding. Byers (*Med. Record*, Aug. 25, 1900).

## PREMATURE LABOR, INDUCTION OF.

A new procedure for the induction of premature labor consists in placing the patient in the obstetrical position and giving a sublimated vaginal douche. The bougiette is drawn down with a retractor, by an assistant, and with or without fixing the cervix uteri with a volsellum, one extremity of a strip of glycerinated gauze is inserted into the cervix. Then little by little the whole of it is introduced entirely within the cervical cavity, prodding it in gently. The vagina is next packed loosely with iodoform gauze and the vulva covered with a dressing of absorbent cotton. If uterine contractions are not set up in about twenty-four hours, this packing may be removed, and a fresh and somewhat fuller one substituted. Magnan (*La Normandie Méd.*, June 15, 1900).

## RABIES.

**Treatment.**—In the care of patients suffering from rabies it is especially necessary to take great precaution with regard to the saliva. While there are no cases on record of infection by this means, there is no doubt that the saliva carries the infectious agent of the disease. Too much care cannot be taken, therefore, with regard to basins, towels, the hands of the patients, the sheets, pillow-cases, and other things, that come in contact with the saliva. In every case of disease that comes for treatment the patient should be asked whether the bite was inflicted by a stray or by a known animal. If by a stray animal then the case should be suspected and for safety's sake the Pasteur treatment should be administered. Wilson (*Med. News*, Aug. 11, 1900).

## RECTAL ALIMENTATION.

For how long a period rectal alimentation should be administered depends upon



the condition necessitating it. In ulcers and irritating affections of the stomach rectal alimentation will be administered alone without any additional nourishment through the mouth for a period varying from one to two weeks, when the natural mode of nutrition will be cautiously resumed. In cases in which there is an organic obstacle within the œsophagus or at the pylorus preventing the passage of food into the intestine, rectal feeding must be carried on as long as the impediment exists (in operative cases until a few days after the operation has been performed—in inoperable cases indefinitely). Here, whenever possible, besides the enemas, small quantities of liquid foods may be given also by way of the mouth.

Shortly after the operations on the œsophagus, stomach, and small intestines, rectal alimentation must be administered for a period varying from four days to a week or ten days.

Before administering the feeding enema, a cleansing injection, consisting of a quart of water and a teaspoonful of salt, should be given early in the morning, in order to thoroughly evacuate the bowel. One hour later the first rectal alimentation may be administered. The feeding enema is best injected by means of a fountain- or Davidson syringe or a plain, hard-rubber piston-syringe, and a soft-rubber rectal tube which is introduced into the anus five to seven inches. The injection should be administered slowly, without much force. After the withdrawal of the tube from the rectum the patient is told to lie quietly and to endeavor to retain the enema. The quantity of the feeding enema may be from 5 to 10 ounces. Three to five such enemas may be given daily.

The following substances may be used as feeding enemas:—

## SEBORRHŒA, A DANGER FROM.

(a) The different kinds of peptones and propoetones in the market (Rudisch's or Kemmerich's peptone, somatose, sanose), of which about 2 or 3 ounces, dissolved in 6 to 8 ounces of water, are injected. The different beef-juices (Valentine's beef-juice, bovine, Mosquera's beef-jelly, etc.) may also be dissolved in water and injected in corresponding quantities.

(b) The milk-and-egg enemas: 6 to 7 ounces of milk, 1 or 2 raw eggs well beaten up in it, 1 teaspoonful of powdered sugar, and  $\frac{1}{3}$  of a teaspoonful of common table-salt. Pancreatin (one tube of Fairchild's pancreatin) may be added to such an enema, which will facilitate its assimilation.

(c) Meat-pancreas enema: Leube employs enemas consisting of well chopped meat (5 ounces), fresh pancreas (2 ounces), 1 ounce of fat (butter); all these ingredients thoroughly mixed with about 6 ounces of water.

Instead of always using one and the same nourishing enema the above compositions may be alternately administered.

In conjunction with these food-enemas, injections of water into the bowel are made in order to increase the amount of fluid in the system. These injections of water for absorption are of great importance. Usually saline solutions are employed, in quantities varying from a pint to a quart, which may be given twice a day. Max Einhorn (Post-graduate, July, 1900).

## SEBORRHŒA, A DANGER FROM.

The seborrhœic is a somewhat dangerous principal or assistant in surgical operations, because the scales of seborrhœa sicca falling upon a wound are liable to cause troublesome inflammatory complications, and even a seborrhœa oleosa may

render the disinfection of the hands a more difficult and uncertain process than usual. On one occasion, a series of post-operative suppurations was personally traced to a seborrhœic house-surgeon, the calamity coming to an end as soon as the seborrhœa was brought under control by appropriate treatment. Also, seborrhœic patients are more prone than others to post-operative suppurations, probably through the agency of microbes retained within the dilated follicles of the skin in spite of the most sedulous cleansing. W. Anderson (Brit. Jour. of Derm., Aug., 1900).

#### "STYES," TREATMENT OF.

As soon as a "stye" begins to appear, one should bathe the eyelids every hour with the following:—

R Acid. boric., 1 drachm.  
Aqua dest., 4 drachms.—M.

In the great bulk of cases immediate relief is secured and the "stye" aborted. "Styes" are usually the expression of eye-strain, and, if the symptom is to be gotten rid of, the cause must be discovered and corrected. This means that the patient should consult a reputable oculist (a physician) and not an optician or spectacle-peddler. G. F. Keiper (Med. World, Sept., 1900).

#### SYPHILIS, MALIGNANT PRECOCIOUS.

The term malignant precocious syphilis is used by syphilographers to describe a peculiarly virulent type of syphilitic eruption, ulcerative in character, occurring early in the progress of the disease, accompanied with fever of a remittent type and marked cachexia.

Of the 8 cases personally seen during the past two years, the precocious type of the disease was shown by the early appearance of ulcerative and pustulo-eruc-

taceous lesions, most particularly marked upon the lower limbs. In one instance the soft palate and uvula were destroyed by a gumma which developed three months after the appearance of secondary skin lesions. Apart from the varying forms of cutaneous lesions presented by these patients, the following conditions were found common to all:—

Progressive loss of flesh, anorexia,—the result of a marked leucocytosis,—hoarse-ness, insomnia, and night-sweats.

In considering the treatment proper for cases of precocious syphilis, it must be borne in mind that the lesions, although appearing in the early secondary stage of the disease, are, in reality, tertiary in character, and that therefore iodide of potassium must be used in conjunction with mercury to obtain the best results, this constituting the single exception to the rule condemning the administration of this drug in secondary syphilis.

No time should be wasted giving mercury by the mouth, daily inunctions of the drug constituting the most suitable method of employing the remedy. The formula adapted to this purpose is:—

R Ung. hydrarg.,  
Lanolin., of each, 2 drachms  
Ol. olive, ½ drachm.

Tr. div. in mass. No. xij.

Sig: One night and morning. (Dispensed in wax paper.)

One of these masses should be rubbed, night and morning for fifteen minutes, on the axillæ, groin, and behind the knees, alternately. In addition, iodide of potassium should be given in 40-grain doses three or four times daily. In such conditions the fluid extract of cascara of considerable value, a formula like the following having proved highly satisfactory:—

R Potass. iodid.,  $\frac{1}{2}$  ounce.

Ext. erythrox. coc. fl., 1 ounce.

Tr. cinchona comp., q. s. ad 3 ounces.

M. Sig.: One teaspoonful every three or four hours.

Cod liver oil is also a most valuable aid in the treatment of precocious syphilis. It is personally regarded as second in importance to the use of mercury in all these cases.

To successfully treat this type of the disease, it is most essential to bear in mind that the patient, as well as the disease, must be treated; and that, while main reliance should be had upon the use of mercury and iodide of potash, at the same time all the well-known tonic and stimulating methods should be employed, such as are resorted to in the treatment of any wasting disease. H. M. Christian (Univ. Med. Mag., Aug., 1900).

### SYPHILIS, TREATMENT OF.

An indurated chancre that has not been present more than twenty-four hours on a long prepuce is probably the best situated for complete and free removal, circumcision being the preferable operation. Euphen or acetanilid is used as a dusting powder. The strong 10 per cent. solution of formaldehyde is the liquid application *per se* if the surgeon desires to use any. Constitutional treatment should be deferred until secondary manifestations are apparent. This delay is justified because it reduces the liability to error in diagnosis; less the regularity of the disease is not interfered with; the patient himself, then more firmly convinced of the nature of his trouble and the necessity for continuous surveillance thereafter; and, as a rule, constitutional treatment is not curative before the disease itself has be-

come constitutional. The maximum dose of potassium iodide personally employed is 960 grains daily for a period of over a month. The index of a sufficient dose is the beginning of clinical improvement. W. P. Munn (Jour. Amer. Med. Assoc., Sept. 1, 1906).

### VACCINATION ERUPTIONS.

An endeavor has been made to collect for statistical purposes the proportion of generalized eruptions in a given series of vaccinations; that is, in a series of sufficient immortality as to necessitate the advice of a physician. For this purpose the records of Dr. Charles W. Allen's Dermatological Clinic (Good Samaritan Dispensary) for the months of May, June, July, August, and September of the years 1897, 1898, and 1899, have been collected with the following results: In 1897, 291 vaccinations were recorded with 34 generalized eruptions; in 1898, 166 with 24; and in 1899, 126 with 25; roughly speaking, 14 per cent. (80 out of 583) of the children presented were subjects of generalized vaccinal eruptions. The report of the dispensary shows that from May, 1897, to October, 1899, 4160 children were vaccinated; of these 583, or 14 per cent., presented complications or sequelæ and 80, or about 2 per cent., generalized eruptions.

The most usual situation for autoinflammation is on the face, or two above or below the original site of vaccination. It may occur to the right or the left of the original sore or, indeed, on any other portion of the body. In two instances "typical vaccinia" was implanted upon a post-auricular eczema and ran the same course as common the arm" (Allen).

The most common generalized eruption was found to be urticaria in its varying types, occurring from the fifth to the twentieth day, usually on the ninth or



tenth. Some instances showed typical wheals of various sizes, others papules, others papulo-vesicles, and others bullæ; in a few instances the smaller wheals had in their centre a minute vesicle, rendering differentiation from varicella necessary. This urticaria, while often generalized, was at times localized to the vaccinated arm, or at most a few lesions were scattered over the body. It was not uncommon to find the lesions of urticaria combined with contagious impetigo, the latter being due to secondary infection from scratching. Urticaria lesions occasionally occurred as early as three or four days after inoculation; these are instances of true reflex action similar to that produced by shell-fish, strawberries, etc.

The morbilliform type, though not very frequent, occurred in several instances, usually ten to eleven days after vaccination. In these cases there were no prodromal symptoms, no coryza or conjunctivitis, and the temperature never rose above  $100.5^{\circ}$  F. per rectum. The eruption, while fairly typical of measles in appearance and distribution, was differentiated by the history of sudden onset, the early disappearance of the rash without desquamation (within forty-eight hours) and the absence of Koplik's phenomenon.

The vesicular eruptions occurred, as a rule, eleven to fifteen days after vaccination. In some instances the trunk was mainly involved; in others the extremities seemed to bear the brunt of the outbreak; a very small number presented a vesiculation limited to the vaccinated arm. A few instances showed generalized vesiculation even to involvement of the oral mucous membrane. Some of the cases simulated chicken-pox so closely that Dr. Allen classified them as of the "varicella-type." When examined care-

fully, however, these cases never have all the characteristics of varicella: the lesions do not come out in stages, they lack grouping in two's, three's, or four's, the mucous membrane of the mouth is usually not involved, and the vesicular contents are darker and not lactescent.

Varicella may, however, appear twelve to fourteen days after vaccination, just at the time when lesions simulating it are wont to occur.

Generalized scarlatiniform eruptions were rather infrequent, only four instances being recorded.

This form of generalized eruption appears about ten to eleven days after vaccination, is unaccompanied by vomiting or pharyngeal inflammation, and subsides in from twenty-four to forty-eight hours without desquamation. Simple erythema or roseola vaccination-rash was observed a number of times; it is a mild form of congestion, disappearing in twenty-four hours.

Postule-bullous lesions were several times entered on the records. The bullous form of vaccinia might be confounded with syphilis, from which it must be differentiated to a great extent by the history. As Allen says, "If it comes between the ninth and fifteenth day—usually tenth or twelfth—we naturally may exclude vaccination-syphilis, which would produce such manifestations only after a lapse of almost as many weeks." The bullous syphilide is a disease of very early life (about six weeks) and is usually fatal.

Other cases simulated eczema with crimson blebs on an erythematous base. Erythema multiforme was recorded a number of times; one of the cases was hemorrhagic, and differentiation from purpura was only rendered possible by the existence of other multiform lesions, which faded away on pressure. A second

instance presented ten days after vaccination a typical erythema exudativum annulare, mainly on the anterior surface of the chest, abdomen, and back.

Mention must be made of conjoined eruptions. There has been seen, in the same patient, erythema and papulo-vesicles, scarlatiniform erythema and minute vesicles, urticaria and erythema multiforme. Finally, as sequelæ of vaccination, were enumerated axillary adenitis, 5; axillary abscess, 6; erysipelas, 13; pseudo-erysipelas (Allen), 7; exuberant granulations, 4; slough, 7; deep ulceration, 67; hæmorrhagic pock (traumatism), 3; hypertrophic scar, 2; marked induration, 4; raspberry growth (dry exuberant granulation-tissue), 2. Jacob Solgel (Med. News, Aug. 11, 1900).

### VULVO-VAGINITIS IN CHILDREN.

**Treatment.**—The active treatment of vulvo-vaginitis differs somewhat with each variety. Foreign bodies, if found, must be removed. Worms can easily be destroyed by the administration of small doses of calomel and santonin and the injection of a strong decoction of quassia-wood. For the arrest of the vaginal discharge, protargol solution is personally used in every variety of vaginitis. The strength of the solution must be adapted to each indication, depending not alone upon the variety, but also upon the quantity and quality of the discharge during the course of the disease. In gonorrhœal vulvo-vaginitis a 2-per-cent. solution may be employed; in all the other forms a solution of half this strength. When the vaginal mucous membrane is very sensitive, a weaker solution may be employed at first. The child is placed in the dorsal posture, and the legs are spread wide apart. The exuding pus is wiped away with absorbent cotton, and by means of a glass syringe holding  $\frac{1}{2}$

ounce a 5-per-cent. solution of sodium bicarbonate is slowly and repeatedly injected into the vagina until the accumulated pus is evidently completely removed. This is followed by the injection, through a small, soft-rubber catheter, of one or two syringefuls (depending upon the age of the child) of the protargol solution referred to before, and this is allowed to remain in the vagina about five minutes by bringing the labia closely together. This process is repeated from three to five times in twenty-four hours. When the urethra is implicated, the following crayon is to be prescribed:—

R Protargol.

Iodoform, of each, 12 grains.

Peruvian balsam, 6 drops.

Extract of belladonna, 1 grain.

Cacao-butter, a sufficiency.

M. Make twelve crayons two inches in length and one-eighth of an inch in circumference.

Sig.: One to be introduced into the urethra once or twice a day.

In gonorrhœal vaginitis one of these crayons should also be inserted at bedtime. No irritation follows this method of treatment, and it is usual to find the gonorrhœa, as well as most of the discharge, disappear within ten days. The strength of the protargol solution is then gradually diminished.

In painful micturition the administration of alkaline sitz-baths is very beneficial. At times alkaline diuretics prove useful. If there is severe pruritus or if there are marked symptoms of inflammation of the genitalia, the child is put to bed and a powder of zinc oxide and starch is applied, special attention being paid to keeping the surface perfectly dry. It is a good rule to stop the use of the injections gradually and to keep the little patients under observation for at least two

weeks after the entire disappearance of the symptoms. It is especially imperative that no case of gonorrhoeal vulvovaginitis should be pronounced cured

unless three microscopical examinations of the vaginal secretion prove negative. H. B. Sheffield (N. Y. Med. Jour., Aug. 4, 1900).

## New Books Received.

The editor begs to acknowledge, with thanks, the receipt of the following books.—

**PRACTICAL URINALYSIS AND URINARY DIAGNOSIS.** A Manual for the Use of Physicians, Surgeons, and Students. By Charles W. Purdy, LL.D., M.D. (Queen's University), Fellow of the Royal College of Physicians and Surgeons, Kingston, Canada; Professor of Clinical Medicine at the Chicago Post-graduate Medical School. Author of "Bright's Disease and Allied Affections of the Kidney"; also of "Diabetes: Its Causes, Symptoms and Treatment." Fifth, Revised, and Enlarged Edition. With Numerous Illustrations, including Photoengravings, Colored Plates, and Tables for Estimating Total Solids from Specific Gravity, Chlorides, Phosphates, Sulphates, Albumin, Reaction of Proteids, Sugar, etc., in Urine. 6 x 9 inches. Pages xvi+406. Extra Cloth, \$3.00, net. F. A. Davis Company, Publishers, 1914 16 Cherry Street, Philadelphia.

**FIELD OPERATIONS OF THE DIVISION OF SOILS, 1899.** By Milton Whitney, U. S. Department of Agriculture, Washington, D. C., 1900.

**SEVENTH ANNUAL REPORT UPON THE BIRTHS, MARRIAGES, DIVORCES, AND DEATHS IN THE STATE OF MAINE FOR THE YEAR ENDING DECEMBER 31, 1898.**

## Monographs Received.

The editor begs to acknowledge, with thanks, the receipt of the following monographs.—

**Report of 1371 Cases of Tuberculosis Treated in the Asheville Climate.** By James A. Burroughs, M.D., Asheville, N. C., 1900.—**Psychic Shock or Insult.** By Jay C. Roberts, M.D., Hastings, Neb., 1900.—**Syphilis of the Brain.** By J. T. Eskridge, M.D., Denver, Col., 1900.—**Would it Not be a Gain to Both Pathology and Practice if a Direct Interaction Between the Morbific Agent (Noxa) and the Reparative Effect were recognized and the Operation of an Intermediate, so-called Inflammatory Process Abandoned?** By A. H. Smith, A.M., M.D., New York, 1900.—**Report of the Committee of the American Surgical Association on the Medico-legal Relations of the X-rays.** J. William White, M.D., Philadelphia, 1900.—**XIII Congrès International de Médecine, Paris, 29 août, 1900.** Masson et Cie, Editeurs; **Résumés des Rapports Présentés à la Section de Gynécologie; Section d'Anatomie Descriptive et Comparée; Section d'Histologie et Embryologie; Section de Médecine et Chirurgie Militaires (A, Chirurgie. B, Epidémiologie et Hygiène. C, Médecine Navale. D, Médecine Coloniale); Section d'Obstétrique; Section de Psychiatrie; Section de Laryngologie et Pathologie; Section de Neurologie; Section de Chirurgie Urinaire; Section de Médecine de l'Enfance; Section de Chirurgie de l'Enfance; Section de Laryngologie et Rhinologie; Section de Chirurgie Générale; Section de Stomatologie; Section de Pathologie Interne.** **Résumé du Rapport sur l'Étiologie et la nature des infections puerpérales.** Par M. Pouché, de Florence, 1900.—**Résumé du Rapport sur le diagnostic et le traitement de la pyohémie otitique.** Par le docteur Dundas Grant (Londres), 1900.—**Kurze inhalt von der Ernährung des Kindes intra- und buccale Ernährung.** Von W. von Lembe, 1900.—**Diabetes und Diabetes mellitus.** Von Prof. I. Seegen, Wien, 1900.—**Thesen von der Ernährung des Gicht erkrankten Patienten.** Von Prof. C. A. Ewald, Berlin, 1900.—**Sur quelques détails anatomiques concernant l'histologie de la mastoïde de Bezold.** By Prof. A. A. G. Guss, Amsterdam, 1900.—**Experimental Station Work, XV.** U. S. Department of Agriculture, Washington, D. C., 1900.—**Notes on the Mosquitoes of the United States: Giving Some Account of Their Structure and Habits, With Remarks on Remedies.** By L. O. Howard, Ph.D. U. S. Department of Agriculture, Washington, D. C., 1900.—**The Principal Insects Affecting The Tobacco-plant.** By L. O. Howard, U. S. Department of Agriculture, Washington, D. C., 1900.



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## Cyclopædia of the Year's Literature.

### CONSTIPATION.

Diagnosis. — An editorial<sup>1</sup> mentions certain overlooked factors in constipation. The first of these is the varying frequency of bowel movements in different individuals. There is no standard, and it is impossible to say always what is normal and what is abnormal. There

are persons who commonly have 2 or even 3 movements of the bowels in 24 hours. This condition is normal for them, and they are to be considered healthy; the change to a single daily

<sup>1</sup> Medicine, Sept., 1900.

movement might be attended with some discomfort.

Again, it is quite certain that bowel movements may be much less frequent than once in 24 hours, and yet be quite normal for an individual. In personal experience is noted the case of a man of middle age who all his life had regular bowel movements at intervals of 36 hours; it is evident that this period was perfectly normal for this individual. It is difficult to say just what shall be the limit beyond which constipation is said to exist. A good plan is to reject all rules and be guided by the individual case.

Constipation is always characterized by irregularity in the bowel movements as well as infrequency in their number. The change from the normal habit of the individual and the fixing of the time when this takes place are valuable points.

Another cause too much overlooked is the mechanical structural defects in the sigmoid and rectum. The newer methods of inflating and examining these parts have thrown a flood of light upon many cases of constipation. These mechanical obstructions are relatively infrequent, but they occur often enough to warrant a thorough examination in all cases which do not yield to simple remedies.

Unquestionably the sigmoid is frequently the seat of organic changes which interfere with the function of the lower bowel. A thorough examination of the lower bowel should be made in obstinate cases of constipation. It will not do to limit the examination to a mere digital exploration of the rectum, but the rectum should be "ballooned" in the knee-chest position.

**Etiology.**—W. J. Mayo<sup>2</sup> thinks that the mechanism of the ileo-cæcal opening

certainly bears out the view that one of its main functions is to prevent the too-rapid emptying of the small bowel, and to maintain some pressure against peristalsis until the process of small-bowel digestion is properly completed. It naturally follows that if for any reason the barrier to ready egress be excessive, partial retention of small-bowel contents takes place, and a small-bowel constipation, so to speak, with a resulting train of symptoms due to fermentation and absorption, necessarily results.

The slow delivery of the intestinal contents into the large bowel, and perhaps in a condition changed from the normal, predisposes to constipation, the large bowel being indirectly rather than directly at fault.

There are no means at present of estimating the effect on intestinal digestion of partial obstruction, and especially so in a minor degree; yet, if one looks at the effects of even slight obstructions at orifices having a similar function, such as the outlet of the stomach, urinary bladder, etc., one cannot but be struck with the remarkable similarity in results: a more or less painful excretion.

**Sequelæ.**—S. L. Woolmer<sup>3</sup> has had two cases of "aneurismal" dilatation of the colon as the result of chronic constipation. Due to this dilatation and the consequent accumulation of fæcal matter therein, the condition of both patients was reduced to one of great gravity, as witnessed by the repeated attacks of intestinal obstruction, the degree of anæmia produced by insufficient alimentation, and stercoræmia. No enema could have possibly cleared the intestine, nor could any procedure

<sup>2</sup> *Annals of Surg.*, Sept., 1900.

<sup>3</sup> *Lancet*, June 16, 1900.



short of operation have relieved the patients.

In both cases the site of the tumor was the same: in the last portion of the sigmoid flexure, in a position where the external agency of the abdominal muscles is of little avail in the act of defecation. The impaction of fecal masses in this region tends to produce dilatation behind it, and this distension may be localized or general. General dilatations are relatively common.

While the condition of the first case could only be accurately diagnosed at the time of the operation, the great mobility of the tumor which subsequently developed itself in the second case gave rise to the belief that in this instance also would a "pedunculated" tumor be met with, for on various occasions it could be demonstrated bimanually that the lesser cavity of the pelvis was absolutely free, the tumor itself being felt well above the pelvis.

**Treatment.**—In selecting a dietary for a patient troubled with chronic constipation Charles E. Stewart<sup>4</sup> states that such dry foods as zwieback, browned rice, etc., are found to be palatable, easy of digestion, and at the same time to present bulk enough to excite gentle peristaltic movements. Nuts, in order to be of service, should go through a special process of preparation. At the present time such specially prepared nut-foods as protose, nuttolen, malted nuts, granuts, bromose, and a number of others can be found on the market. A diet consisting of granose, browned rice, protose, steamed figs, prune marmalade, and ripe fresh fruits,—such as apples, strawberries, oranges, etc.,—almond butter, and cream is palatable, nourishing, and easy of digestion.

The patient should be instructed to use no liquid with his meals, other than

that which is contained in the food. A glass of cold water, half an hour before each meal, and as much hot or cold water as is desired two and one-half to three hours after each meal, will prove beneficial. He should also be instructed to eat the dry food at the beginning of the meal. The dryness of the food will necessitate thorough mastication and insalivation, resulting in the thorough digestion of the starch.

After arranging a proper dietary and giving the patient explicit directions concerning it, treatment should be instituted at once to relieve him of the accumulated mass of fecal material. This can usually be done by means of cleansing enemas of warm water, using from 1 to 2 quarts at a temperature of 100° to 102° F.; if this fails, 2 ounces of olive-oil or sweet oil, followed by a strong solution of soap-suds, 1 to 4 pints, at a temperature of 100° to 102° F. The cleansing enemas should be employed for three successive days, and should be followed by the graduated enema, which is given as follows: The first day after the last cleansing enema one is to use 72 ounces of water at a temperature of 102° F.; the second day, 64 ounces at 98° F.; the third day, 56 ounces at 92° F.; the fourth day, 48 ounces at 88° F.; the fifth day, 40 ounces at 84° F.; the sixth day, 32 ounces at 78° F.; the seventh day, 24 ounces at 74° F.; the eighth day, 16 ounces at 70° F.; the ninth day, 8 ounces at 64° F.

The effect of this treatment is to keep the lower bowel from becoming obstructed, and at the same time to give tone to the walls of the bowel by gradually reducing the temperature and the amount of water used. This treatment

<sup>4</sup> Jour. Amer. Med. Assoc., May 26, 1900.

should be taken at the same time each day to establish a rhythmical movement of the bowel. Besides the graduated and cleansing enemas, other hydropathic procedures—such as the hot enema, the cold enema, the moist abdominal bandage, the cold sponge-bath, cold mitten-friction, cold douches, and alternate hot and cold douches to the abdomen, wet sheet pack, and cold sitz-bath—are very effective. The Scotch douche, which consists of rapidly alternating applications of heat and cold, when applied to the abdomen, has a strong tonic influence on the abdominal muscles and also on the involuntary muscles of the intestine.

Abdominal massage, both manual and mechanical, is a very valuable aid in strengthening the abdominal and visceral muscles. Special movements to replace viscera are also valuable. Great relief is frequently experienced by the use of an abdominal supporter, which can be adjusted while the patient is in a reclining position.

Electricity can, in many cases, be used with good results. This is particularly true of the sinusoidal current, which can be used with great advantage where there is an enteroptosis due to relaxed abdominal muscles. After replacement of the viscera the application of the slow sinusoidal current to the abdominal muscles produces results which cannot be accomplished by any form of passive exercise.

By means of a rectal electrode introduced into the rectum, and a pad electrode placed over the abdomen, the musculature of the lower portion of the alimentary canal can be gently exercised by the rapid sinusoidal current. This form of treatment gives most excellent results in those cases in which there is a semiparalyzed condition of the mus-

culature of the rectum due to failure on the part of the patient regularly to evacuate the bowel.

Exercises calculated to develop the body as a whole, and especially to develop the abdominal muscles, are of great importance.

In infantile constipation M. Dorflar<sup>5</sup> obtains excellent results from the administration of fresh butter. The amount varies with the age of the child. A half teaspoonful is given to children of from one to three months, with a spoonful of coffee, morning, noon, and night. Children of from five to twelve months are fed with from 1 to 3 teaspoonfuls of butter at evening, every two or three days, this being continued until the stools are regulated. When a normal condition of the bowels is reached the remedy should be discontinued and resorted to again if the trouble recurs. Absolutely fresh butter should be employed. The butter seems also to improve nutrition.

After an examination and observation of cases of constipation extending over twenty years J. M. Mathews<sup>6</sup> is forced to believe that the majority of them have, as a basis, a constitutional derangement. In trying to solve the problem it was observed that many of these patients were of a rheumatic or gouty diathesis. Acting upon this hypothesis, he has treated them by combating this special trouble, and has found that in many cases the constipation would take care of itself. The best preparation to be used for this purpose is some form of lithia. Water containing this salt will be found of service if taken in large quantities and for a long period of time. However, in personal practice, it is pre-

<sup>5</sup> *La Presse Méd.*, June 6, 1900.

<sup>6</sup> *Med. Mirror*, Apr., 1900.

ferred to use the drug in a more concentrated form, and for some time a preparation of lithia known as thialion has been used, with a marked degree of success. It should be taken in teaspoonful doses, given in a full glass of hot water before each meal.

Personal theory is that in the rheumatic or gouty subject the intestines are brought under the same conditions that the disease or diseases are made manifest in other portions of the body. The muscular coat of the intestines is particularly affected by this gouty condition, and in consequence loses its contractile power. A fruit diet, together with the drinking of large quantities of water, should be enjoined. Massage of the abdomen by the patient himself, who should be taught the route of the colons, should be advised. The sweets should be forbidden and only plain, nutritious diet observed.

In a form of chronic constipation which is due to a spasmodic contraction of the colon Romme<sup>7</sup> says the usual treatment of constipation—namely, hydrotherapy, electricity, massage, exercise, etc.—does harm by increasing the already-excessive tone of the bowels. The treatment should consist in hydrotherapy, diet, and sedatives. Hot compresses applied to the abdomen and changed every hour or two is the most important remedial agent. For the first few days the compresses should be used also at night. At the same time the patient should receive warm sitz-baths or general baths. Douches (82° to 86° F.) directed at first against the abdomen, along the course of the colon, then the lower and upper extremities, for two minutes, are also useful. Large injections of warm water (99° F.) at a low pressure will be found beneficial. Chamomile or, in cases of ulcerative

colitis, 400 to 500 cubic centimetres of olive-oil, may be advantageously added to the injections. The latter should be used at first every night, then every second or fourth day. The diet should be free from any irritating substances. If considerable intestinal fermentation is present, meat should be restricted and a more liberal vegetable diet allowed. All laxatives, especially drastic cathartics, are harmful. Belladonna will be found useful; also tincture of opium, 5 drops daily. It is well to administer also a little castor-oil.

W. J. Mayo<sup>8</sup> has in eight cases eliminated the ileo-cæcal mechanism as a factor in the intestinal circulation either by removing the parts for malignant or tubercular disease or by an ileocolostomy, and in each instance the bowel movement became looser and more frequent than had been the habit of the individual previous to the advent of the disease for the relief of which the operation was undertaken, showing that, if the ileo-cæcal valves are not present, the faecal circulation in the large bowel is rendered more active.

F. C. Ameiss<sup>9</sup> says an excellent method of obtaining a movement from the bowels after post-operative constipation is by using, on the beginning of the third day, an enema of 1 pint of warm water with soap-suds and 4 ounces of olive-oil, given with the long rectal tube. If no evacuation results within four hours, the enema is to be repeated, replacing the olive-oil with 4 ounces of glycerin, administering, at the same time, *per os*, 1 drachm of magnesia sulphate in the juice of 1 lemon and 6 ounces of water. When tympanitis is

<sup>7</sup> La Presse Méd., No. 18, 1900.

<sup>8</sup> Annals of Surg., Sept., 1899.

<sup>9</sup> Annals of Gynec. and Ped., Jan., 1900.



present, an enema of  $\frac{1}{2}$  ounce of turpentine, 4 ounces of olive-oil, and 1 pint of warm water is ordered. If not effectual, the above dose of magnesia sulphate is to be repeated every three hours, for three or four doses, discontinuing the enemas. When vomiting co-exists, calomel, in  $\frac{1}{4}$ -grain doses, given every hour, until eight or ten doses are administered, frequently both checks vomiting and produces purgation. When these simple means have failed, enemata of 8 ounces of beef-gall and 8 ounces of water have, in several patients, saved reopening the abdomen.

When a diagnosis of post-operative intestinal obstruction is made, reopening of the abdomen is considered the only proper treatment, but there are cases in which, on account of the general condition of the patient, the great shock of the primary operation, or accompanying complicating diseases, the secondary operation cannot be performed. And in just such a case a satisfactory result was personally obtained with ox-gall.

The bile used in personal cases was fresh from the slaughter-house, in several instances still possessing the body-warmth of the animal.

The physiological action of a beef-gall enema is very likely similar to that of the bile secreted in the human body.

Dr. Alnate writes: "In all cases of incipient constipation, administered in the form of enemas, ox-gall is a remedy of undoubted efficacy; and even in protracted cases, where hope has almost fled, but where evidences of strangulation are not unequivocally manifested, it should never be omitted."

### CYSTITIS.

**Symptoms.** — Ramón Guitèras<sup>10</sup> says that in the beginning of an attack of

acute cystitis there is often depression, nausea, and loss of appetite, although there is no febrile movement. Urination is frequent and precipitate, occurring sometimes as often as a hundred times in twenty-four hours. Pain in the perineum radiating through the urethra and along the thighs and tenesmus in the neck of the bladder almost constant, a brief interval of relief following complete emptying of the bladder.

The urine is acid and of normal specific gravity. It is turbid from the amount of pus present, and is pale or highly colored, according to the amount of fluid ingested. If the urine is concentrated, there may be blood enough in it to give it the color of thin prune-juice. The microscope reveals bladder-epithelium, pus, blood, bacteria, and perhaps crystals. Recto-abdominal palpation gives pain in the trigone, and the bladder is extremely sensitive to the introduction of fluid or instruments.

According to Frederic Bierhoff,<sup>11</sup> cystitis papillomatosa occurs in the female as a form of chronic cystitis, and may present the clinical picture either of the catarrhal or of the suppurative form. Its symptoms are frequency of urination, accompanied by more or less pain, and tenesmus, the urine passed being clear or turbid. Bleeding, which is usually a characteristic symptom of true vesical papilloma, does not occur spontaneously, although it may follow instrumentation. Its seat is at the trigone, which it usually covers, and it may extend over into the urethra, from which at times it appears to start. Its villi, or papillæ, spring from an inflamed base and are discrete.

<sup>10</sup> Med. News, Sept. 7, 1900.

<sup>11</sup> *Ibid.*, May 26, 1900.

**Diagnosis.**—F. Bierhoff<sup>12</sup> says that in cystitis papillomatosa, on cystoscopical examination, the entire trigone is found to be the seat of a well-marked inflammatory process, the mucous membrane, from the ligamentum interuretericum to the sphincter internus, being of a deep-red color, while the surface has a grayish-red, cumulous appearance: the result of the diminished power of reflection of the inflamed membrane. The remainder of the bladder is normal. If the window of the cystoscope be brought near the surface of the mucous membrane, this cumulous appearance changes so that the suspicion is aroused that one has to deal with a papillary growth. Viertel stated his belief that, in some cases of chronic cystitis, the satiny appearance of the inflamed mucous membrane was due to the beginning formation of papillæ. This suspicion may become a certainty by the employment of the following simple procedure: The ureter-cystoscope is armed with a ureter-catheter, and inserted into the bladder, so that the window lies directly over and close to the inflamed area; the catheter is then gently laid diagonally upon this surface, or is passed over the surface at an angle. It will at once sink into the mass of papillæ, or pass between them, and the individual papillæ will stand out distinctly as discrete, rosy-red tongues, against the deeper color of the catheter.

**Prognosis.**—According to J. Lamond Lackie,<sup>13</sup> chronic cystitis may continue for many years without endangering the patient's life, and when it is the primary cause of a fatal issue it is very rare that the bladder is found to be the only part of the genito-urinary apparatus affected at the time of death.

Patients have been known to die from sheer exhaustion, produced by the well-

known symptoms of cystitis, but in the great majority of cases serious pathological changes have occurred in adjacent or distant structures, and these have been the immediate cause of death. No doubt, in fatal cases, the commonest secondary lesion is septic pyelonephritis, and this is so even when the primary disease in the bladder is tubercular in nature; but, on the other hand, secondary acute general tuberculosis or tubercle of the lungs or kidneys may lead to a fatal termination. In a few cases, whether the cystitis be simple or tubercular, the formation of abscesses around the bladder and the continuous discharge from fistulæ have led to the exhaustion of the patient. In a personal case recently under observation the fatal issue was due to a double infection of the kidneys. There was a remarkable absence of symptoms pointing to any renal affection till just a short time before death, when complete suppression of urine occurred, and even then the patient did not feel especially ill, until complete anuria had existed for ten days.

**Treatment.**—In all but the mildest cases of acute cystitis H. H. Morton<sup>14</sup> orders the patient kept in bed until the severity of the symptoms is controlled and the acute stage is past.

The room should be maintained at an even temperature.

A brisk calomel purge should always be administered at the beginning of an attack.

During the progress of the case a daily movement of the bowels should be secured by Hunyadi or Rabinai water.

<sup>12</sup> Med. News, May 26, 1900.

<sup>13</sup> Edinburgh Med Jour., Aug., 1900.

<sup>14</sup> N. Y. Med. Jour., May 19, 1900.

Hot sitz-baths at a temperature of 100° or 105° F. are serviceable in allaying the vesical irritability and tenesmus. The exposed part of the patient's body should be well covered with blankets while taking them.

The diet should be light and largely composed of milk. Meat should not be allowed at all, or only in small quantities. Fresh fruit may be taken in moderation. Alcohol is interdicted, unless, perhaps, in old men who need a stimulant, in which case whisky well diluted may be used.

Pure spring-water or distilled water may be taken freely, unless the desire to urinate is very frequent and urgent.

Alkalies should never be administered as a routine measure.

If the urine is highly acid, and deposits uric-acid crystals, bicarbonate or citrate of potassium is useful in allaying the irritation.

Opium is often required in acute cases to control the vesical tenesmus, pain, and irritability. It is given preferably in  $\frac{1}{2}$ -grain morphine suppositories, but may be used by the mouth as well.

Sandal-wood oil has a very beneficial action in allaying the too-frequent urination and pain of cystitis in its acute stage, later in the attack, when the secretion of pus has diminished so that the urine, instead of being turbid, presents only a fine cloudiness, the oleoresins—such as turpentine and copaiba, cubebs and fluid extract of pichi—and minute doses of cantharidin, dissolved in alcohol, have an effect in quickly causing a cessation of the suppuration and a clearing up of the urine.

Salol may be considered as a representative of the antiseptic group. It is given in doses of 10 grains three times a day.

In the same way boric and benzoic

acids, in doses of 20 grains a day, exercise their germicidal power, and are to be chosen when the urine is alkaline in reaction from the presence of a fixed alkali.

In the group of aniline derivatives may be mentioned methyl-blue and urotropin.

Methyl-blue, in the quantity of 15 grains a day in tablets or capsules, is often of service when the urine contains large quantities of bacteria. The urine, from using this drug, becomes at first greenish in color and later of an intense blue.

Urotropin, which dissolves phosphatic concretions and causes the phosphaturia to disappear with rapidity and often permanently, in many cases has proved to be a urinary antiseptic of great value, and particularly so in cases of chronic cystitis accompanied by ammoniacal decomposition of urine. The proper dose is 24 grains a day; if this is exceeded, burning in the urethra and frequent urination occur.

Bladder-washing, which is so essential in chronic cases, is entirely inadmissible in the acute forms.

The only varieties of local application which can be used without doing harm are instillations of nitrate of silver. These can be used with advantage in the most acute cases of cystitis. The principal indications for their use are painful and frequent urination, provided the bladder is capable of emptying itself.

By means of an Ultzmann syringe 20 drops of nitrate-of-silver solution, increasing in strength from 4 grains to 10 grains to the ounce, are deposited every second or third day in the post-urethra, from which point it flows back into the bladder and trickles over the surface of the trigone.

The bladder should be empty before



the instillation, as the nitrate of silver is neutralized if it comes in contact with the urine. Instillations are mainly useful in acute cases.

In acute cystitis Ramón Guitèras<sup>15</sup> considers rest in the recumbent position as most essential. Hot sitz-baths are of the greatest service. They should be given twice a day as hot as the patient can conveniently stand. Hot rectal douches of saline solution are also of benefit, and can be given by means of the rectal tube, preferably the one known as the recto-genital variety, made by Revnders & Co., of New York. The hotter these irrigations are given, the more beneficial they seem to be. The temperature usually used is from 110° to 120° F. These hot rectal douches can be taken by the patient while in the hot sitz-bath, or they can be taken independently of it.

The patient should take internally diluents of an alkaline nature, such as the potash salts; mild urinary antiseptics, such as the salicylates or benzoates, and antispasmodics, as belladonna, hyoscyamus, or codeine. Of the urinary antiseptics, probably the benzoate of soda, 15 grains; salicylate of soda, 60 grains; and salol, 30 grains, a day, in divided doses, are the most efficacious. Of the antispasmodics, tincture of belladonna, 8 to 10 minims; tincture of hyoscyamus, 15 to 30 minims; codeine,  $\frac{1}{4}$  to 1 grain; or morphine,  $\frac{1}{8}$  grain to  $\frac{1}{4}$  grain, each to be given three times a day. These can be given combined with the diluents and urinary antiseptics or singly, as preferred. Very often the spasm and pain at the neck of the bladder are so intense that it is better to give the antispasmodics in the form of a suppository, especially at night, in order to allow the patient to obtain some rest. In this case the suppository should be made of

$\frac{1}{4}$  grain each of morphine and the extract of belladonna in cacao-butter.

If the urethra is not too sensitive, bladder irrigations through the meatus by hydrostatic pressure, according to the Janet method, should be used. Of these, in the acute condition, permanganate of potash is probably the best, beginning with a strength of about 1 to 4000 and increasing it slowly until as high as 1 to 1000 is used. It will usually take a week of daily irrigations to reach this latter strength, increasing by easy stages. If the permanganate of potash is not efficacious, a solution of nitrate of silver may be used, beginning at 1 to 16,000 and increasing gradually to as high as 1 to 3000 or 1 to 4000. Boric acid or boroglycerin, a tablespoonful to the pint, is also of value.

Sometimes when the patient's bladder is very intolerant and about one ounce or more of fluid causes the patient sufficient distress to force him to urinate, it is better to give instillations of nitrate of silver by means of the deep-urethral syringe until sufficient tolerance is established to allow the irrigation to be given. In giving these instillations it is well to begin with the strength of 1 grain to the ounce and increase up to 10 grains if necessary. From 5 to 10 minims of such a solution should be instilled at each sitting, and generally every other day is sufficiently frequent for such a treatment.

In cases of chronic cystitis the urinary antiseptics already mentioned are useful, also the oil of wintergreen and the oil of eucalyptus; but when the urine is alkaline, nothing equals urotropin in 7- or 8-grain doses every three to four hours. In every case great benefit will follow a systematized course of

<sup>15</sup> Med. News, Apr. 7, 1906.

bladder irrigation, either by hydrostatic pressure or by the catheter and hand-syringe. In washing out the bladder simple boric-acid solution may first be used, or even saline solution or sterilized water followed at intervals by solutions of permanganate of potash or nitrate of silver in the strength already mentioned.

As a matter of prophylaxis, great care should be taken in keeping instruments clean. All hollow instruments should be flushed after use. As to sterilization, briefly, all purely-metal and all soft-rubber instruments may be sterilized by five minutes' boiling. Gum elastic and woven catheters, as well as all other instruments, may be sterilized by subjecting them to the formaldehyde-vapor generated by means of the formalin pastils and lamp in a Schering-Glatz sterilizer.

In the treatment of chronic cystitis J. H. Marsh<sup>16</sup> regards it of the greatest importance to ascertain the nature of the exciting cause which must be removed before any reasonable hope can be indulged of a permanent cure.

The patient should be put to bed and kept perfectly quiet, and a general antiphlogistic course of treatment instituted. The bowels should be opened with saline cathartics or enemas, and, if the secretions are disordered, with calomel and jalap. The diet should be light and bland, consisting largely of milk. Demulcent drinks should be freely given. Warm baths and hot fomentations are very useful. When by these means the violence of the disease has been subdued, internal remedies, such as balsam copaiba, buchu, uva ursi, and the terebinthinate preparations may be employed. In acid conditions of the urine an alkaline treatment is always indicated, while in alkaline states of the

urine acids are to be given. Opiates, hyoscyamus, etc., are indicated for the relief of pain. In gouty and rheumatic subjects colchicum and the iodides are extolled, and iron for anæmia. Benzoic acid has been recommended as sometimes affording relief when everything else fails. Salol has been used within the last ten years as an antiseptic, and with good results in many cases.

Local treatment of this affection is important, and the only treatment that will give satisfactory results in the great majority of cases. Irrigation of the bladder should always be done under the most absolute antiseptic precaution, and no air allowed to enter the organ.

The frequent irrigation of the bladder, which can always be accomplished, if carefully used, with a soft-rubber catheter and an ordinary syringe with boiled water or antiseptic solution composed of nitrate of silver,  $\frac{1}{2}$  to 2 per cent. or stronger; permanganate of potassium,  $\frac{1}{2}$  to 4 per cent.; boric acid, 2 to 10. per cent.; creolin, from 1 to 5 per cent.; corrosive sublimate, 1-20,000 to 1-5000; carbolic acid, 1-500 to 1-250. In cases which fail to yield to these methods of treatment and in which urination and painful tenesmus are prominent symptoms and are accompanied by a gradual failure of the general health, a perineal cystotomy, followed by permanent drainage, will often be required, and give marked relief and occasionally result in an entire cure.

C. G. Cumston<sup>17</sup> offers the following conclusions based, not only upon his own experience, but also upon that of others: 1. Sublimate instillations will often produce a very great improvement in the distressing symptoms met with in

<sup>16</sup> No. Car. Med. Jour., June, 1900.

<sup>17</sup> N. Y. Med. Jour., Sept. 22, 1900.

both tuberculous and non-tuberculous cystitis, such as a diminution in the frequency of micturition, a decrease of the pain, an increase in the capacity of the bladder, and an improvement in the condition of the urine. In some cases a complete cure may be obtained. 2. When the instillations fail to produce the desired effect, curettement of the bladder is indicated in both tuberculous and non-tuberculous cystitis. 3. In gonorrhœal cystitis instillations of sublimate are particularly efficacious and rapidly subdue the pain. 4. Under favorable circumstances a radical cure of primary tuberculous cystitis may be obtained by curettement when the vesical lesions are localized and the kidneys free from the disease. Curettement *per urethram* will not allow the surgeon to reach the entire surface of the bladder; so that when the lesions are extensive they should be directly treated by suprapubic cystotomy. 5. Much relief may be afforded by curettement to a large number of patients suffering from tuberculosis of the bladder, but who, on account of the advanced stage of generalized infection, are in no condition to undergo a more radical operation. 6. When cystitis is due to a prolapsus of the genital organs, and when hysteropexy, combined with anterior and posterior colporrhaphy, does not relieve the bladder symptoms, curettement of the bladder, followed by sublimate instillations, is the proper treatment. These instillations may be given as follows:—

The instruments necessary are a syringe with a capacity of four cubic centimetres, preferably one made with a glass reservoir and rubber mountings so that the salt will not attack it, and a small perforated bulbous catheter, not larger than a 12 or 14 French scale. The pa-

tient should be instructed to empty the bladder immediately before the operation.

The syringe is then filled with the solution, its point is introduced into the end of the sound, and a little of the solution pushed through it so as to drive out the air. The sound is then gently introduced into the bladder and the quantity of liquid is slowly injected. In the male it is better to instill the solution in the posterior urethra when withdrawing the sound, and it is important that the posterior urethra should be treated, because it always participates in the inflammation of the bladder. In those cases in which there is no pain during the instillation of the bladder, but when the posterior urethra is painful, one sometimes can do without treatment of the latter. During this treatment an attentive observation of the effects produced and the results obtained can be the only guide.

After the sound has been withdrawn, it is well to tell the patient to turn first on one side, then on the other, and then on the abdomen, so that the solution shall come in contact with all parts of the mucous surface of the organ.

The first instillations are occasionally somewhat painful, and also when the strength of the solution, or its quantity, is increased pain may be complained of; but, when the treatment is carried out carefully the pain is always of short duration, and the use of cocaine or eucaine is not indicated except, perhaps, when using a 1 to 500 solution of sublimate.

In principle the instillations should be given every day, so that the bladder may be kept in as constant a state of antiseptis as possible; but it is more prudent, perhaps, when the use of rather strong solutions, such as 1:2000, 1:1000,



or 1-500 are reached to carry out the treatment in the first place only every other day, and after this, when it is well borne by the patient, to continue it every day. This question is entirely one of judgment on the part of the surgeon.

Generally speaking, one may commence in the adult with a solution of 1 to 4000 and in the child 1 to 5000; more diluted solutions than these are too weak to be of any therapeutic value. The strength of the solution is to be progressively increased according to the tolerance of the mucous membrane of the bladder. It may be said that in recent cases of cystitis, no matter what their nature may be, it is useless to use solutions stronger than 1-2000 or 1-1500.

As to the quantity of liquid to be instilled, it has seemed that from 2 to 4 cubic centimetres is the proper amount, and from 10 to 15 drops in the neck of the bladder and the deep portion of the posterior urethra. More than this quantity is useless and injurious.

The solutions of sublimate should never be made with alcohol. A tablet composed of 25 centigrammes of bichloride of mercury and 1 gramme of tartaric acid is very convenient, one of these dissolved in a litre of water making a solution of 1 to 1000.

## DIPHTHERIA.

**Diagnosis.**—During the past year J. W. H. Eyre<sup>18</sup> has examined all samples of milk submitted to him with a view to the detection and isolation of any bacilli occurring therein which morphologically resembled the Klebs-Loeffler bacillus. As a result, he has obtained from no fewer than five specimens, organisms that microscopically appeared to be typical diphtheria bacilli, but none of them were capable of initiating lesions

in the guinea-pig resembling those produced by the Klebs-Loeffler bacillus.

The interest of these observations lies in the fact that it would be quite easy to be deceived by the microscopical appearances of any one of these organisms.

The conclusions reached from these studies are:—

1. That several groups of bacilli—exhibiting segmentation, metachromatism, and clubbed involution forms—are occasionally present in retail milk.

2. That the bacilli of these groups agree in resembling the bacillus diphtheriæ to some extent, but are capable of being differentiated from it and also from each other.

3. That these bacilli arrange themselves according to their color production into three well-defined groups which are characterized by the coloration of the colonies themselves in Groups 1 and 3 (yellow and white, respectively) without the nutrient medium being affected, and by the infiltration of the medium by a pinkish color in Group 2, the colonies themselves being only slightly chromogenic.

4. That the members of these three groups are non-pathogenic.

5. From the foregoing it follows that it is practically impossible to diagnose the presence of the true bacillus diphtheriæ in a milk sample, by microscopical tests alone, but that the identity of the Klebs-Loeffler bacillus can only be established by careful consideration of its biological and pathogenic characters.

**Etiology.**—Cobbett<sup>19</sup> has obtained cultures of bacillus diphtheriæ from the nasal discharge of a pony. The original culture was sent by Dr. Mearns Fraser,

<sup>18</sup> Brit. Med. Jour., Aug. 18, 1900.

<sup>19</sup> *Ibid.*, July 7, 1900.

M.O.H., who, while investigating the causation of an attack of diphtheria in a little girl, had noticed that her father's pony was suffering from a purulent and slightly sanguineous nasal discharge. Experiments established the identity of the bacillus.

**Complications.**—In a study of post-diphtheritic paralysis Bernard E. Myers<sup>20</sup> gives figures based upon all the cases of diphtheria admitted into the Park Hospital during 1899.

During 1899 there were 1316 cases of diphtheria in the wards. In the same year there were 275 cases of post-diphtheritic paralysis and paresis; so that in about 1 case of diphtheria out of every 5 cases the patients suffered from paralysis or paresis. There were 147 cases in males and 128 in females. Considering that the number of males and females admitted with diphtheria in 1899 was almost exactly the same, the above shows that the males (53.5 per cent.) suffered more from paralysis after diphtheria than the females (46.5 per cent.). Of those who suffered from paralysis there were 80 deaths (29 per cent.), 44 occurring in males (55 per cent.) and 36 in females (45 per cent.).

Out of 275 cases of paralysis and paresis for all ages, there were 174 cases that occurred between the ages of three and eight years, equaling 63.2 per cent. of the total number. There were 40 cases between the fifth and sixth years of age, equaling 14.5 per cent. of the fatal cases for all ages. The females suffered most severely in the five-to-six-year period, while the males fared worst in the three-to-four-year period.

During the year there were 80 deaths in the various forms of paralysis after diphtheria and 64 of these cases were due to cardiac paralysis, so that only 16 deaths were due to other causes, while

89 per cent. of the deaths were the result of cardiac paralysis. Of all forms of paralysis 73 per cent. were of the cardiac variety, and of the 64 cases of cardiac paralysis 33 were in males and 31 in females.

In one instance the symptoms of cardiac paralysis came on upon the second day of illness, while in one other case it seems to have been on the thirty-sixth day. These marked the two extremes. Of the 64 cases, the average date upon which the symptoms appeared was the seventh day.

There were 21 cases of diaphragmatic paresis and paralysis. As diaphragmatic paralysis rarely occurs without some other paralysis or paresis, these cases—with only one or two exceptions—contained various other parts affected in the same patient.

Of 21 cases of the above paralysis 11 terminated fatally and in 10 the patients recovered. In the 21 cases 13 were males and 8 were females.

There were 110 cases where the palate alone was affected, which equalled 40 per cent. of the total number of cases of various kinds of paralysis and paresis for the year. With regard to sex, there were 61 cases in males and 49 in females. The minimum age was 1½ years, the maximum 35 years, while the average age was 7 years. As to the day of onset, the minimum time was the 8th day of diphtheria, the maximum the 55th day, and the average the 27th day.

**Prophylaxis.**—William Evart<sup>21</sup> remarks that to watch for the bacillus, and so long as it is detected to isolate the patient, may prove to be the only safe course in exceptional instances of diphtheria; but there is another less

<sup>20</sup>—Lancet, Sept. 22, 1900.

<sup>21</sup>—Edinburgh Med. Jour., Sept., 1900.

passive policy, namely: more strenuous endeavors to get rid of it quickly, and thus to shorten the infectiveness and the quarantine. There should be thorough disinfection of the nasal cavities and naso-pharynx in all cases of diphtheria, scarlet fever, influenza, and other zymotics (whooping-cough and mumps) before children are allowed to return to school. The best method of carrying this out—whether by spray, irrigation, or other devices—is a question which might best be discussed by experts. But, in view of the extent and complexity of the surface to be cleansed, it is essential that whatever method is selected it should be applied early during the attack, and perseveringly and continuously during the period of convalescence, for the protection of the patient's future surroundings.

At St. George's Hospital it has long been the rule for all cases of diphtheria admitted under personal care to receive local treatment for the nose and naso-pharynx, by the introduction of carbolyzed oil twice daily throughout their stay in the hospital, with a view not only to relieve local discomfort or lesions, and to obviate the spread of the latter, but also to insure, if possible, in all cases a gradual cleansing and disinfection of the entire mucous surface, by the spreading upward of the oil, which is dropped in with a camel's-hair brush with the head thrown back. If this or any other better system were generally adopted, it is not unlikely that the unfortunate occurrence of late relapses, or of infection by the apparently healthy convalescents, might be considerably reduced; and that, instead of being prolonged in some cases, the period of isolation might be materially reduced in all.

**Treatment.** — Edward L. Kellogg<sup>22</sup>

gives the following brief description of the hospital for scarlet fever and diphtheria patients at the foot of East Sixteenth Street, New York.

There are two pavilions separated from each other at their nearest point by a distance of thirty feet, the workings of which are entirely distinct. Each employs a separate medical staff, corps of nurses, cooks, chambermaids, etc., and has its own kitchen, dormitory, and nurses' rooms and office for the use of the physician in charge, in connection with which there is a well-equipped laboratory and drug-room, and an observation-room where doubtful cases can be isolated. The patients' quarters consist of a number of light, well-ventilated rooms, communicating with a long corridor, at the end of which there is a sun-room. There is no ward; so that each patient has a private room. The laundry is in a building by itself. The disinfecting plant is also separated from the hospital, and consists of a steam tank and formaldehyde-chamber. In the former the steam is raised under pressure to a temperature of 230° F. and kept turned on for half an hour. If formaldehyde is used, the articles to be disinfected are exposed to the gas continuously for twelve hours.

Patients are carefully examined before being admitted, and, if there is any question in regard to diagnosis, they are placed in the observation-room of the scarlet fever or diphtheria pavilion. The resident physician, before entering the presence of the patient, is required to wash his hands thoroughly with soap and water, followed by immersing them in bichloride solution 1 to 2000. A gown is supplied which buttons closely around the neck, covering the collar and

<sup>22</sup> Med. Record, Sept. 15, 1900.



enveloping the body completely, just clearing the ground below. With this goes a cap arranged to cover the head and neck, exposing only the face. This, with a pair of rubber overshoes, completes the uniform. When he leaves the pavilion, the hands and face are disinfected thoroughly, and the mouth is cleansed with boric-acid solution. The attending physicians, whether of the regular hospital staff or specially employed by the patient, follow the same routine, and this is required of all visitors. Ladies, if admitted at all, are also required to remove their outer skirts before putting on the uniform.

The patients are not allowed to leave until free from contagion. For the diphtheria cases are required two clear cultures on successive days before they are considered ready to discharge.

On the day of discharge the following routine is adopted for all adults unless there is some contra-indication (for children special instructions are given in each case): 1. The ears are irrigated with bichloride solution, 1 to 8000. 2. The scalp is shampooed with soap and water. 3. The scalp is shampooed with bichloride solution, 1 to 2000. 4. A tub-bath is given of soap and water. 5. A tub-bath is given of bichloride solution, 1 to 8000, for twenty minutes. 6. A sponge-bath is given of bichloride solution, 1 to 2000. 7. The bichloride is sponged off with sterile water. 8. A nasal spray is given of bichloride solution, 1 to 8000. 9. The mouth is cleansed with saturated solution of boric acid.

For convenience is used a suite of three communicating rooms known as the discharge-rooms Nos. 1, 2, and 3. The first room is entered from the corridor, and here the hospital clothing is left. In No. 2 the patient is subjected

to the process of disinfection. In No. 3 he puts on his freshly-disinfected clothing. There is a "discharge door" in this room so arranged that he can leave the hospital without again passing through the corridor.

All clothing that can be washed is disinfected with steam. For articles that will not stand this treatment is used formaldehyde-gas. Books and papers are subjected to steam, although it is necessary first to remove the leather covers from the former. Beyond a slight blurring of the writing no damage is done. Toilet articles are treated in the same way, but jewelry, such as rings, pins, etc., are disinfected with pure carbolic acid. Watches are exposed to formaldehyde-gas.

A. Anderson<sup>23</sup> finds that there is a direct relation between recovery and the early administration of antitoxin. Series grouped according to age show a striking diminution in mortality for younger children, who are ordinarily more susceptible to the disease. One of the effects of the administration of the antitoxin is the rapid disappearance of the membrane and the extreme rarity of further extension of the lesion. Especially is this important in laryngeal diphtherias. Involvement of the larynx subsequent to the appearance of the membrane in the nose and pharynx indicates a late stage of the disease and that the patient has not received antitoxin. Such patients die from cardiac failure, anuria, or paralysis. Laryngeal symptoms never supervene in diphtheria where antitoxin has been already injected. Still more satisfactory results follow in post-scarlatinal diphtheria.

<sup>23</sup>Quarterly Med. Jour., vol. viii, p. 173, 1900.

Occurrence of albuminuria and paralysis has increased since the introduction of antitoxin; almost all severe albuminurias appear when the antitoxin has not been administered until the fifth day or later. Paralysis has increased because more patients survive to develop it than formerly. When the injection is made early paralysis is infrequent, and is mild, as a rule. The dose of the serum depends on the severity of the injection, not on the age of the patient. Early diagnosis means a small dose: Four thousand units are considered a mild dose. In severe infections 4000 units should be given every three hours, for three doses, and repeated the following day if necessary. Large doses may thus be given with impunity. To determine the necessity for a repetition of the dose, one should examine the false membrane. If nasal discharge was present and it has entirely ceased, injections may be discontinued. Absence of nasal discharge and a sodden appearance of the membrane, with a well-marked loosened edge, indicates that little more antitoxin is required. The temperature-chart is unreliable, though fever usually diminishes in uncomplicated lesions. It is better to repeat such doses as above given than to give larger initial injections. The aim is to neutralize the toxin before it destroys the nerve- and other cells. Antitoxin has no bactericidal effect; toxins continue to be elaborated until the tissues have themselves overcome the bacteria. If the bacteria pass into the general circulation, the area for the elaboration of toxins is enormously increased, and these latter must be neutralized by correspondingly-large doses of antitoxin. Injections must be given at the earliest possible moment. It is best not to wait for the result of a bacteriological exami-

nation. Local treatment is also requisite.

R. W. Marsden<sup>21</sup> tabulates the results of the treatment by antitoxin in 105 cases of diphtheria personally observed throughout their course.

The clinical diagnosis was, in almost all instances, verified by the cultivation of the Klebs-Loeffler bacillus from swabs sent to the bacteriological laboratory at Owens College. In the remaining cases not examined by Professor Delepine or his assistants the cultivations were made at the hospital.

In over one-half of the cases antitoxin was injected on the first day of illness, and in the vast majority during the first two days.

The antitoxin was injected, as a rule, upon the clinical diagnosis, bacteriological confirmation being obtained later. In this series of 105 cases only 1 terminated fatally; and there can be no doubt that this extremely favorable result was due to the early period at which the remedy was administered. The advisability of withholding the injection until the result of a bacteriological examination has been obtained must depend upon the clinical symptoms and the length of time which is likely to elapse. Personal opinion is that it should always be given upon making the clinical diagnosis, unless the medical practitioner, from his knowledge and experience, can with a reasonable degree of certainty conclude that no serious consequences will arise from the necessary delay. When, from the proximity of the means of examination, a bacteriological report can be obtained in twelve to eighteen hours, it is probable that in nearly all instances the practitioner can wait with impunity; but when a period

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<sup>21</sup> Brit. Med. Jour., Sept. 8, 1900.

of one or two days at least must elapse before its reception, then the advisability or non-advisability of injecting antitoxin must rest with the clinical diagnosis, and depend upon the severity of the attack, the presence of urgent symptoms, and the rapidity of its progress as observed at frequent short intervals.

It must be remembered that a negative result from a single bacteriological examination is by no means a proof of the non-diphtherial nature of the disease.

As diphtheria is the one acute disease affecting the nose, throat, and larynx for which a specific remedy is possessed, and in which neglect of early treatment may be followed by serious and irredeemable consequences, it is one's duty, when in doubt, to exclude it by administering its antidote.

As regards the unnecessary pain of an injection in non-diphtherial cases, this is surely too trivial an objection, and the only point which requires consideration is the expense. Small doses only are, as a rule, necessary at the beginning of an attack, whereas, when the toxins have been absorbed for some time, the dose must be doubled, trebled, and even quadrupled; and, moreover, if left too long, these and larger doses are unavailing.

In general, the amount of antitoxin given has been comparatively small; thus, 750, 1000, and 1500 units have been sufficient in a few cases where the local and general symptoms were very mild and the advance very slow, or where it was evident that the disease was only of a few hours' standing.

As a rule, all ordinary cases with well-marked local symptoms and moderate constitutional disturbance when observed early received 2000 units,

whereas the doses over this amount were reserved for the cases in which the congestion and swelling in the throat, the amount of membrane formed, the degree of glandular infiltration, or the rapidity in the advance of the symptoms denoted the probability of a severe case. A repetition of the injection was only necessary in 4 cases, where the absence of a fall in the temperature or pulse-rate, or a continued advance in the local signs showed that the first dose had been insufficient.

In 25 instances pyrexia was absent throughout, and in 13 the temperature was normal before antitoxin was given. In cases with pyrexia, when the antitoxin is injected during the early stages, there is no doubt that the temperature steadily diminishes after a sufficient dose, and not only reaches, but retains, the normal height within a fairly definite time.

Of 59 cases where the temperature became settled within three days, in 52 instances antitoxin was injected during the first two days of illness, whereas of the remaining 7 cases, which took a longer time, the injection was more delayed in 3. In 3 others where the injection was given on the first day a fall in the temperature began at once, but took four days in 2 of them, and six days in the other, before the normal was reached.

Since the introduction of antitoxin in the treatment of diphtheria, probably no fact is more remarkable than the regularity with which the local inflammatory signs subside and the membranous formation disappears after immunity has been produced by counteracting the toxins absorbed.

Excluding the fatal case, paralysis was only observed in 7 out of 104 cases. The 7 cases comprised 2 of cardiac irregu-



larity (on the eleventh, thirteenth, and eighteenth days of illness), 1 of palatal paralysis with strabismus, 1 of paralysis of accommodation for near vision, and 2 of strabismus.

The symptoms attributable to the antitoxin (that is, erythemata, pyrexia, joint pains) did not differ materially from those so frequently described. They were present with various doses, and appeared chiefly from the sixth to the eighteenth day after the injection. An erythema (morbilliform, urticarial, or mixed) was almost common, and was found in 20 cases. Occasionally it was accompanied by pyrexia, and on two occasions by pains in the joints. There were also 2 cases with joint pains not accompanied by an erythema, and 1 case with pain over the lower third of the right femur. The most unusual case was that of a boy, 4 years of age, who received 2000 units on the first day of illness. Eleven days later he had pyrexia, with slight cardiac irregularity, and a crop of wheals developed on the front of both legs, chiefly below the middle of the tibia. The wheals subsided, leaving round, purplish, hæmorrhagic stains. The stains gradually faded in two or three days.

Edwin Rosenthal<sup>25</sup> has made a thorough and complete investigation regarding antitoxin. To obtain accurate information upon the influence on the mortality records, letters were written to every health officer in American cities having an organized bureau of health, as well as hospitals for contagious diseases and pest-houses. Letters were also written to foreign countries, and to such institutions or individuals as had been personally learned of in readings or otherwise. One hundred and fifty-seven cities replied. A summary reveals the following figures:

Number of cases previous to the  
serum period ..... 183,256  
With a mortality of 38.4 per cent.  
Number of cases since the anti-  
toxin period ..... 132,548  
With a mortality of 14.6 per cent.

The latter were not all treated with serum; in computing those cases treated with the serum alone the mortality was 9.8 per cent.

Of the method of using the antitoxin, the summary shows the following as the latest conclusions: When called in the early stages of the disease, and the symptoms are favorable, one should never administer less than 1500 units. Where, however, the "laryngeal" form threatens, it is never advisable to employ less than 2000 units. Should the type of the disease be severe, 2000 units should be the minimum commencing dose, and if of the laryngeal form, 3000 units should be the commencing dose. In every instance where favorable action does not manifest itself in six to ten hours, a second injection should be made of double the number of units of the primary injection.

In answer to the question "To what quantity can the antitoxin be used?" Dr. Rosa Engelmann says: "Would say, further, that I now use much larger initial and subsequent curative doses. I recently used 20,000 units in seven days in one case."

A. Robin<sup>26</sup> says a specific must fulfill the following postulates:—

1. It must increase the percentage of cures to the maximum.
2. It must reduce the mortality below a point ever recorded and keep it at or near that point.

<sup>25</sup> Jour. Amer. Med. Assoc., Aug. 4, 1900.

<sup>26</sup> N. Y. Med. Jour. Aug. 11, 1900.

3. It must accomplish this without the admixture of other remedies.

Antitoxin (1) cures every case of experimental diphtheria where the amount of toxins is known. It cures from 75 to 90 per cent. of all cases of human diphtheria where the amount of toxin circulating in the blood is not known. 2. It reduced the mortality to 10-15 per cent.,—the lowest point ever recorded throughout extensive areas,—and has kept it there since 1894. 3. It does the work without the addition of any other medication, although in man symptoms are usually combated with other drugs, just as they are in malaria and syphilis.

William H. Park<sup>27</sup> states that ever since the discovery of the value of diphtheria antitoxin in the prevention and treatment of diphtheria, it has been the desire of those using and producing the serum to separate the diphtheria antitoxin from the blood-serum, with the hope that in this way the antitoxic effect might be retained, while the deleterious effects sometimes produced by injections of blood-serum, as evidenced in the rashes and the effect on the red blood-cells, might be avoided. As investigations progress it has become more and more evident that the antitoxic substances in the blood are closely combined with the globulins of the blood, and that whatever precipitates them precipitates the antitoxin also. In fact, without globulin there appears to be no antitoxin, and wherever antitoxin exists globulin does also. Therefore it was personally decided to use "antitoxic globulin" in cases of diphtheria in place of the blood-serum entire. This antitoxic globulin was diluted so that each cubic centimetre contained the same number of units as the original serum.

As a whole, the results are very disappointing, as this antitoxin globulin ap-

parently contains the greater part, at least, of those substances which cause the more or less deleterious effects of the blood-serum, and as there seems no probability of separating the antitoxic properties from the globulin, the present outlook for a substance which, while being a specific neutralizing substance for diphtheria, will at the same time be absolutely harmless, is not encouraging. What is true for diphtheria antitoxin is also probably true for other protective serums.

### MYOCARDITIS.

**Symptoms.**—In all forms of myocarditis J. H. Musser<sup>28</sup> notes certain common phenomena, particularly the sallow complexion of the individuals and the similarity of the physical signs. When this peculiar pallor is present one will not go wrong in assuming that the coronary arteries are implicated. The physical signs given by the heart are those of myocarditis alone, or of myocarditis plus hypertrophy or plus dilatation. The apex-beat will be displaced to the left, and the cardiac dullness will be somewhat increased. Quite early there is "gallop rhythm": a cantering or reduplication of the systolic sound. It is more commonly heard about the fourth rib, and is sometimes more marked in the supine position, and usually more marked after exercise. Myocarditis is often overlooked in fevers because of the temporary disappearance of "gallop rhythm." Murmurs are not heard constantly until late in the disease, unless complications are present. It is not so much the presence of reduplication, or of gallop rhythm, or of murmurs, as the

<sup>27</sup> Pediatrics, Aug. 15, 1900.

<sup>28</sup> Med. Record, Jan. 27, 1900.

variability of the auscultatory phenomena which is so characteristic of this pathological condition. When dilatation supervenes, the physical signs change in keeping with the physical condition of the heart.

Abraham Jacobi<sup>29</sup> considers that in infants and children myocarditis is mostly parenchymatous.

Most intense and persistent myocardial changes are found after influenza and after diphtheria; they are most injurious at about puberty. In many arhythmia and murmurs last for life; they may be modified by a protracted recumbent position during convalescence, and by resorting to absolute rest extending over weeks whenever increased cardiac disturbance is observed. The systolic murmur is extensive, but mostly heard in the mitral and pulmonary regions, at the same time that now and then there is an increase of transverse dullness. But more characteristic than the extensive murmur is the irregularity of the contraction of the heart. The condition of the heart-muscle changed by myocarditis (parenchymatous or hyperplastic, it makes no difference) is not uniform. No matter how many causes, either in the heart or nerves or distant organs, are charged with causing it, the most frequent cause is chronic myocarditis.

A peculiar form of arhythmia mostly complicated with a murmur is the duplication of one of the heart-sounds. The cause of this gallop-rhythm must be either in the myocardium or in the valves. From careful and long observation of individual cases, and from the improvement that rest alone is able to work on the case in regard to the annoying symptoms, there is no doubt that it is the former.

The gallop rhythm is a suspicious

symptom, inasmuch as it proves the exhaustibility of the heart-muscle.

**Diagnosis.**—Edward G. Janeway<sup>30</sup> believes myocarditis is very liable to be mistaken for tuberculosis. It is well to remember, however, that there may be found a few bacilli in cases where there really is no tuberculosis. When attacks of angina occur, a mistake may be made in not recognizing the gravity of the trouble present. Such attacks, really due to myocarditis, are sometimes attributed to digestive disturbances for the reason that they are liable to take place after a meal.

**Etiology.**—Henry Koplik<sup>31</sup> finds that myocarditis is not at all rare in children, being a very common accompaniment of such acute infectious diseases as diphtheria, scarlatina, and typhoid fever. Romberg has called attention to the important fact that even in the severest cases all of the muscular fibres of the heart are not affected. Experimental research has made it probable that the myocarditis in these cases is the result both of the high temperature and of the toxins of the disease, and it is evident from clinical experience that high temperature alone is not responsible for its causation, as it is frequently found in rapidly-fatal cases of pneumonia, for instance, in which the temperature has been low. In severe cases of pertussis, myocarditis will be found, partly as the result of the strain on the heart produced by the paroxysms of coughing and partly as the result of the action of the toxins of the disease.

I. Adler's<sup>32</sup> clinical experience has led him to believe that in those cases of

<sup>29</sup> Med. News, May 12, 1900.

<sup>30</sup> Boston Med. and Surg. Jour., July 26, 1900.

<sup>31</sup> Med. Record, Jan. 27, 1900.

<sup>32</sup> *ibid.*



myocarditis characterized by œdema and dyspnœa the myocarditis is principally localized in the auricles. Arteriosclerosis is not, by any means, confined to the later years of life, and it is in these youthful cases of arterial disease that myocarditis is especially noted. This arteriosclerosis is sometimes noticed shortly after puberty, chiefly in males. It is commonly the result of various toxæmias, the most notable of which is, perhaps, that resulting from the use of tobacco. Then there are cases of hereditary myocarditis without any toxic element, occurring almost wholly in young males.

**Treatment.**—In myocarditis with gal-

lop rhythm A. Jacoby\* thinks that a long rest is required and attention to general hygiene, food in small and digestible quantities, and regulation of the bowels. In most cases iodide of potassium is indicated and strychnine or some other cardiac stimulant. Strychnine should not be feared, because it should not be forgotten that parts of the heart are probably in an intact or nearly intact condition, and permit of stimulation. If that be done carefully, the galloping rhythm ceases to be such a bad omen as some declare it to be.

\*Med. News, May 12, 1900.

## Cyclopædia of Current Literature.

### ABORTION.

**Treatment.**—In a considerable number of the cases of spontaneous abortion the woman gives the history that the first evidence of anything gone wrong was a chill. In such cases it seems that the exciting cause of the abortion has been infection, and it is the best therapy to evacuate the uterus as soon as possible by curettement, thus getting rid of infectious material. Afterward, should there be evidence of infection still remaining in the uterus, the plan of treatment will lie between a second curettement and douching the interior of the uterus with various solutions, ranging from plain water or salt solution to mild antiseptic solutions.

A second curettement following a few days after the first is admissible, but a third should not be made.

In such cases there are two alternatives: One may either elect to extirpate the uterus, or one may limit him-

self to endeavoring to keep the interior of the uterus as clean as possible by uterine douches and trust the overcoming of the infection to nature.

A second class of cases comprises those presenting hæmorrhage as the chief symptom. The most severe hæmorrhages occur in cases of abortion after the third month from partial retention of the placenta.

Two plans of treatment are presented. The hands may be kept out of the uterus and nature be left to finish the process already begun, endeavor being made to aid her by keeping the genital canal as aseptic as possible, and possibly aiding her by endeavoring to contract the uterus by means of gentle massage after Crooke's method of placental expression, or by small doses of ergot or hydnarum. One may, on the other hand, boldly invade the uterine cavity with hand, fingers, or curette, and extract the retained placenta or membranes.

When it is possible without much effort and one's hand is small, the whole hand may be introduced into the uterus. Generally all that needs curetting away will be found at the site of the placental attachment. Most of this may be detached by the fingers and the rest by the dull or sharp curette. That part of the uterine cavity that feels smooth and slippery may generally be let alone.

It must ever be kept in mind the extreme ease with which the uterine walls may be penetrated by the curette.

Those cases of abortion which have begun apparently without infection and have later become infected may be regarded in the same light as those cases in which infection has caused the abortion. The uterus should be promptly emptied, rendered aseptic, and kept so. W. R. Lincoln (Cleveland Journal of Medicine, Aug., 1900).

### ACTINOMYCOSIS.

Attention is called to the possibility that a portion of the cases ranking as alveolar abscesses may be due to actinomycosis. During eighteen months' work in the Out-Patient Department at the Massachusetts General Hospital, 8 cases of actinomycosis were personally found in about 60 so-called alveolar abscesses examined, and 4 were found by other surgeons.

It is rarely possible to make a clinical diagnosis of actinomycosis. Recurrent abscesses, without necrosis; chronic, painless, subcutaneous abscesses, about the jaw, evidently not connected with tubercular glands, would lead to a suspicion of this disease. If these fluctuating areas were surrounded by especially firm and hard connective tissue, and a sinus could be felt under the skin, if there was little œdema and swelling,

perhaps a probable diagnosis could be made.

With reference to treatment, simple opening, curetting, and drainage have proved sufficient in many cases; though recurrences may be frequent, healing eventually takes place. Where possible, excision of the inner half of the abscess-wall or sinus is the best treatment. The danger from swallowing the granules, where the discharge empties into the mouth, is hard to estimate. Certain cases of generalized disease in the lungs, intestinal tract, liver, etc., occur in which the organism gained entrance through the food, or was swallowed, and therefore the surgeon should aim at making external drainage. This question is often a difficult one to decide. On the one hand, he wishes to avoid a scar on the face, especially in women; on the other, he wishes thoroughly to eradicate the disease. The individual case and the severity of the infection must determine the choice between curetting and cauterizing the cavity with tincture of iodine or carbolic acid and a more radical excision. Iodine of potash, in doses of 20 grains three or four times a day, has distinctly influenced some cases for good, and should be used in connection with the local treatment. C. A. Porter (Boston Med. and Surg. Jour., Sept. 13, 1900).

### BACILLUS COLI COMMUNIS IN DRINKING-WATER, SIGNIFICANCE OF.

Waters in which the bacilli coli communis are found to exist for any length of time are dangerous to the public health, and the only safe course is to condemn all such. An example proving this is the recent outbreak of typhoid fever in West Burke. From the first there seemed good reason for suspecting

the water as the source of the trouble, and samples were sent to the laboratory and examined. The cases in this town were undoubtedly typhoid, but no typhoid bacilli were found in the water. It was, however, found infected with the bacillus coli communis. If the water had been examined before the outbreak and found contaminated, as it undoubtedly was, the trouble might have been averted. J. H. Linsley and B. H. Stone (Med. Record, Sept. 1, 1900).

### BLISTERED HEELS.

**Treatment.**—At this season, when heavy boots and rough stockings blister unaccustomed heels, the following method of treatment may be of service. The blister is incised, and the raised epidermis cut completely away with sharp scissors; no overlapping fragment beneath which microbes might develop is left. The surface is then carefully dried and painted with several layers of salicylated collodion. A circular piece of linen—a bit of old pocket handkerchief is best—is cut rather larger than the exposed surface; this is plastered on with more collodion, which is well worked into the meshes of the material. Several more coats of collodion are put on over all. This makes a strong and intimately-adherent protection to the abraded surface; the patient can immediately walk with comfort, and the epidermis reforms underneath with unimpeded rapidity. A large blister may require several applications, since one lasts only two or three days. The treatment should be applied early; a blistered surface which has been irritated into the hæmorrhagic condition had better be exposed and treated with antiseptic lotions for a day or two, till the inflammation has subsided, before the

above method is applied. A. H. Ward (Brit. Med. Jour., Sept. 8, 1900).

### BONE-FOOD.

In a rough estimate, four-fifths of the human body, by weight, consists of water. Of the solid remainder the most characteristically mineralized portion is the bony skeleton. The analysis of bone-structure shows an exceeding richness in phosphatic materials. If bone can be digested it should afford the most compact medium through which to supply the phosphates needed to repair the phosphatic elements which are wasted in the economy of life.

Bone-flour is prepared from the larger bones of sound beef-cattle. The bones are thoroughly cleared of all muscular and tendinous tissue, dried, and ground. The resulting product is a fine powder devoid of taste and odor, and which will keep indefinitely. It is given in admixture with other foods in such proportion as will serve to bring them up to the standard phosphatic supply. To ordinary flour or meal of the common cereals it is recommended in the proportion of from 3 to 5 per cent. In general, it may be mixed with any food-article which is sufficiently glutinous to hold it in general admixture, or it may be taken in suspension in milk or water. It is not intended to take the place of the various hypophosphites, as a remedy; but as a dietetic agent it will frequently make the administration of the hypophosphites unnecessary. B. T. Whitmore (Medicine, Sept., 1900).

### CANCER OF THE STOMACH.

**Diet.**—The weakened motility or propulsive power is always a conspicuous feature of advanced gastric carcinoma, and this calls imperatively for small and relatively frequent feedings with the



blandest and most easily digestible nourishment. In probably a large majority of cases good fresh milk in some of its forms or preparations will agree best and will need to be prominent among the nutrients depended on. Usually plain sterilized or boiled milk with one-twelfth to one-fourth part lime-water, according to the degree of irritability, is as suitable as any form, if digestives are given after the meals, but sometimes it agrees much better when predigested or peptonized. Other excellent foods for aggravated cases are the whites of eggs beaten up in water; well-cooked gruels, peptonized or not as found necessary; whey; koumiss; gelatin; the juice pressed out of lightly-broiled steak; and vegetable *purées*. Any of the liquid foods may be thickened by the addition of beef-powder. The various proprietary foods, both the albuminous and non-albuminous kinds, will often suit well and will help to afford variety, in the worst cases especially. In the earlier stages and in those cases with less irritability and more digestive power, stale bread or toast and butter, crackers, fish, oysters, hashed lean meat, soft-boiled or poached eggs, thoroughly-cooked cereals (the finer kinds), with milk and cream, and even the blander vegetables in which the starch has been well dextrinized by cooking, may be allowed, but all these should be finely divided before eaten. As to beverages, the previous habits of the patient will often decide. The lighter wines in small quantities may add slightly to the nutrition, and tea and coffee, unless they specially disturb the stomach, should not be denied to patients who have been accustomed to them, though they should be taken without sugar whenever fermentation is very troublesome. The richer chocolates will almost certainly disagree and

often the choicest cocoa, though these are all highly nourishing. An infusion of cocoa-shells is more suitable, and there is no objection to the cereal coffees sweetened with saccharin. Sugar, being the most fermentable of all foods, should generally be avoided.

As the disease advances and the ability of the stomach to empty itself lessens more and more, the amount of the liquids taken by the mouth will have to be diminished—especially the amount taken at a time. It will seldom be well to allow more than half a pint of liquid at any one time in this way and much less in far advanced cases. Toward the last the demand of the system for liquids may have to be met in part by injecting water into the bowels, and the feeding in the later stages may be supplemented by nutrient enemas. Boardman Reed (*Internat. Med. Mag.*, Aug., 1900).

#### DIGITALIS AND ITS DERIVATIVES.

From a study of digitalis and its derivatives, the conclusions reached are as follow:—

1. Digitalin and digitoxin each represent the full circulatory powers of digitalis.
2. Digitalis, digitalin, and digitoxin stimulate the cardio-inhibitory mechanism, both centrally and peripherally. In larger doses they paralyze the intrinsic cardio-inhibitory apparatus.
3. They all cause a rise of blood-pressure by stimulating the heart and constricting the blood-vessels.
4. Very large doses paralyze the heart-muscle of the mammal, the organ stopping in the diastole.
5. Digitalin of Merck is a stable compound, 1 gramme of it being equivalent to about 70 cubic centimetres (18 drachms) of tincture of digitalis.
6. Digitoxin is not to be recom-

mended for human medication on account of its irritant action, which makes it liable to upset the stomach when given by the mouth or to cause abscesses when given hypodermically, and on account of its insolubility, which renders it slowly absorbed and irregularly eliminated, having a marked tendency to cumulative action. J. P. Arnold and H. C. Wood, Jr. (*Amer. Jour. Med. Sci.*, Aug., 1900).

### EAR DISEASE, INTRANASAL TREATMENT IN.

Indications for intranasal treatment in the different diseases of the ears are:

1. External ear: In diseases of the auricle and external auditory meatus there are no indications for intranasal treatment.

2. Middle ear: Acute inflammation of the middle ear, whether catarrhal or suppurative, requires, as a rule, no intranasal treatment during the attack, except careful cleansing of the nose with a saline solution; indeed, any other would be harmful. Exceptions might, however, arise in which obstruction of the Eustachian tube might require immediate intranasal treatment. Chronic affections of the middle ear may be divided into non-purulent and purulent. In non-purulent cases simple means should be taken to relieve catarrh and to remove any specific organisms from the nose and naso-pharynx.

In considering the question of operative treatment in the nasal cavities for obstruction produced by deflection, spurs, ridges, enlargement of the turbinated bodies, etc., it must be borne in mind that obstruction in the nasal cavities exerts a pernicious influence on the middle ear in three different ways: by producing exhaustion of the air from the tympanum, by maintaining catarrh

of the naso-pharynx, and by the direct irritation of the Eustachian orifices or pressure upon them by means of hypertrophied posterior ends of the turbinated bodies, polypi, etc. To assist in deciding when an operation is indicated on account of the ears it is convenient to divide the cases of chronic non-purulent middle-ear diseases into two classes: (1) those in which inflation [either by Politzer's method or the catheter, if necessary a post-nasal one] improves the hearing, and (2) those in which repeated inflation has no effect. In the former class the nasal obstruction may usually be relieved with benefit to the hearing power; in the latter operation is not to be recommended for the sake of the ears, although it may be and often is required for other reasons. The most it could do would be to prevent the deafness from increasing. Exceptions, of course, occur.

In the treatment of the naso-pharynx the same general rule holds good as in the nasal cavities with regard to the removal of obstruction and relief of catarrh; the latter, however, in this instance forms the more prominent feature.

The removal of adenoid vegetations, even if small and not sufficient to produce nasal obstruction, is indicated in cases of chronic non-suppurative middle-ear disease; but here, again, the improvement in hearing likely to accrue from the operation depends on the result of previous inflation. In attacks of tympanic catarrh in children, the removal of adenoids and of any nasal obstruction, between the attacks, often exerts a beneficial effect.

Paresis of the palatal muscles affecting the Eustachian tubes requires appropriate treatment with galvanism, etc. In chronic suppurative disease of the

middle ear the indications for treatment of the nasal cavities and nasopharynx are similar; but in these cases the nasal treatment occupies a place secondary to that of the ear itself through the meatus. Personally it is preferred, if possible, to arrest the purulent discharge from the middle ear before operating on the nose and nasopharynx.

3. Internal ear: Diseases of the internal ear require intranasal treatment only as far as they are dependent on middle-ear lesions, and to them the previous remarks are applicable. No benefit has been obtained from the intranasal treatment either to auditory vertigo or tinnitus, excepting when these depended on tympanic troubles. E. Cresswell Baber (*Brit. Med. Jour.*, Sept. 8, 1900).

### ELECTRIC LIGHT AND THE EYE.

The action of electric flashes upon the eye is always classed as traumatic. Widmark has made some extended researches as to ocular trouble due to exposure to electric lights. From these he concludes that such are produced by a direct irritation of the parts affected, and that this irritation is produced almost exclusively by the ultraviolet rays, which, as is known, exert a similar influence upon the skin. Widmark has also found that such rays can also produce striated opacities of the lens. If such, then, be the case, it is justifiable to conclude that domestic lights are injurious to the eyes in proportion to the amount of the ultraviolet rays they contain. According to personal observation, the Welsbach gas-light has proved more satisfactory and less injurious as a light by which we may read and work than any other. The light of the Welsbach light is produced by ignited gas

passing through a thin, conical, veil-like body called a mantle. It is on the order of the calcium illuminator. This mantle, by being heated, radiates a steady, strong, white light. The chief point is, therefore, in the construction of these mantles. A recent writer says that the mantles are made by "saturating a fabric with a solution of rare mineral earths and then burning out the fabric, leaving a delicate, crystalline skeleton." The rare earths considered most effective are thorium and cerium, and they are contained in mineral mozarite, deposits of which, from having been almost worthless thirty years ago, have now attained great value. The writer also adds that "attempts have been made recently to make mantles on another than the Welsbach principle of saturating a fabric and then burning it out, namely: by making the ingredients into a paste with some gummy substance, drawing it out into threads, and then weaving these into fabric, and burning it out as before." When the Welsbach is used for reading purposes there should always be an under shade, preferably white, so the intensity of the light may be mitigated. Dunbar Roy (*Med. News*, Sept. 8, 1900).

### GALL-STONES.

**Treatment.**—From a study of a number of cases, the following conclusions are reached:—

1. Operations should be performed after it is well established, by repeated attacks, that gall-stones are present.

2. Gall-stones may be present in the gall-bladder for years without giving colic, but are a cause of more or less digestive disturbance and impairment of the general health.

3. From personal experience in one or two cases, and from reports from the Maine General and other hospitals, it is



thought that many cases are better treated at the time of operation, by closing the bladder, dropping it back into the cavity, and closing the abdominal wound.

4. Cases treated by drainage are, in many instances, slow to recover, and liable to be left with biliary fistula for a long time.

5. Great care should be used to cleanse the bladder before closing it, rendering it as nearly aseptic as possible.

6. While cases of recurrence of gallstones may follow operation, it is believed that they are no more liable to after closing than after drainage. S. C. Gordon (*Amer. Gynec. and Obstet. Jour.*, Aug., 1900).

### ICHTHALBIN IN INTESTINAL DISEASES.

Twenty-eight cases of subacute and chronic enteritis treated with ichthalbin gave the following results:—

1. Ichthalbin was given in doses up to 8 grammes (2 drachms) daily for a long time without harmful results, and was always eagerly taken. It caused no constipation, even in the larger doses, nor any symptoms of irritation of the intestines or kidneys.

2. In metabolism tests it facilitated the albumin intake, while at the same time it diminished the nitrogen elimination via the urine, and heightened the utilization of the ingested nutriment.

3. Doses of 0.3 to 0.5 gramme (5 to 8 grains) of ichthalbin sufficed to raise the appetite and increase the body-weight; hence the remedy appears to be serviceable as a tonic.

4. In four series of tests daily doses of 1.5 to 3 grammes (23 to 45 grains) greatly reduced the quantity of ethyl-

sulphates, and lessened intestinal fermentation, even though the dejections only gradually lost their fœtid character.

5. Under otherwise constant conditions (diet, etc.) daily doses of 1.5 to 3 grammes of ichthalbin had a satisfactory—at times very excellent—influence on simple chronic enteritis, as well as in cases complicated with peritonitis or tuberculosis.

6. Subacute gastric and intestinal catarrhs were, to some extent, satisfactorily influenced; but in acute cases an uninfluenced action could not be observed.

**Dosage.**—In the chronic intestinal catarrhs in children under 1 year of age doses of 0.3 to 0.5 gramme (5 to 8 grains) were given thrice daily; to children from 1 to 5 years of age, 0.5 to 1 gramme (8 to 15 grains) three times daily; over 5 years of age, 1 gramme (15 grains) thrice daily. As a tonic, doses of 0.3 to 0.5 gramme (5 to 8 grains) were given to children and adults three times daily. The ichthalbin may also be ordered in bulk, with directions to take a knife-pointful thrice daily. Rolly (*Merck's Archives*, Aug., 1900).

### KRAUROSIS OF THE VULVA.

**Treatment.**—In kraurosis of the vulva sexual intercourse should be avoided and rest should be given to the parts. Strong carbohc acid applied to the vascular areas gives great relief, but only temporarily; the cautery is also very effectual. The application of glycerin and acetate of lead at night between the nymphæ is beneficial. Cocaine in the hands of Lawson Tait, for the first ten or twelve applications, relieved pain like a charm, but afterward increased it. Powders, such as boric acid, derma-

tol, etc., may be applied to the vulva with benefit. If there is vaginitis, boric acid or borax douches will convert a pus discharge into a mucoid one, then astringent lotions (such as chloride of zinc, gr.  $\frac{1}{4}$  to the ounce; or liquor plumbi acetatis, 1 part to 40) are recommended to arrest the discharge. Herman suggests, in suitable cases, the enlargement of the vaginal orifice by operation. Phenazone given internally in doses of 5 to 10 grains three times a day is remarkably effective in alleviating pain and itching in this and other forms of skin affections, and its administration may be continued for weeks at a time without producing any harm; as it has many incompatibles, it had better be given by itself in the form of tabloids or in a simple solution with some liquid extract of licorice to disguise its taste. None of this treatment, however, can arrest the course of the disease, and Martin has suggested the excision of the diseased structures, uniting the edges of the wound with catgut by superposed continuous sutures. The results have been most satisfactory; in the great majority of the cases upon which he operated a radical cure was effected. The operation, of course, is restricted to those cases in which the morbid changes have not extended beyond certain limits. P. Z. Herbert (*Brit. Gynæc. Jour.*, Aug., 1900).

### MORPHINE IN SURGICAL PRACTICE.

The general indications as to the employment of morphine in surgery may be summarized as follows:—

1. Morphine should be given hypodermically and in doses sufficient to accomplish the purpose for which it is given.

2. When surgical shock is attended by such severe pain as to cause uncon-

trollable restlessness, morphine should be given in doses adequate to relieve it. The same treatment is indicated for shock-restlessness without pain (usually due to hæmorrhage), the appropriate general treatment for shock being also carried out.

3. Morphine is the best internal hæmostatic in the treatment of hæmorrhage. When the hæmorrhage is complicated by restlessness, morphine is absolutely indicated because of its quieting effect upon both mind and body.

4. When drunkards, or exceptionally neurotic patients, are to be anæsthetized, a preliminary hypodermic injection of morphine renders such anæsthetization quicker, easier, and safer, and favorably affects the stage of recovery. Obstinate and exhausting vomiting after ether is sometimes relieved by morphine.

5. If in the first twenty-four hours after operation pain becomes so severe as to cause uncontrollable restlessness, this pain should be relieved by morphine. To this rule there are practically no exceptions; it applies to all operations regardless of the operative area.

6. When used in accordance with these indications the beneficial effects of morphine so overshadow its injurious effects that the latter are not demonstrable. To this rule there may be a very few exceptions. Edward Martin (*Ther. Gaz.*, Sept. 15, 1900).

### MORPHINISM.

**Treatment.**—The gradual-reduction method in the treatment of morphinism in the Walter Baker Sanitarium, Boston, has been employed with success for many years. It is begun by giving the patient his usual quantity of morphine for a few days, during which time his

peculiarities are studied. The morphine is always administered hypodermically, regardless of the method of administration habitually employed by the patient. In a few days the size of the dose is begun to be gradually reduced, tonics and such other remedies as the symptoms indicate being vigorously administered. Particular pains should be taken to insure sleep at night. This is of the most vital importance. Another important indication is the maintenance of a fair appetite. A third essential is the prevention of suffering. To promote sleep, all the sedatives of the materia medica must be at the command of the physician, particularly that prince of hypnotics, apomorphine. The appetite is maintained meanwhile by the use of bitter tonics, of which cinchona is a good example. Freedom from suffering is obtained, first, by the very gradual withdrawal of the morphine, and, second, by the use of substitutes. These substitutes must be selected to suit the individual peculiarities of each case. A very excellent plan is to rely exclusively upon dionin, substituting it for morphine very early in the treatment, and gradually reducing it in the same way as if it were morphine. The dose, however, of dionin should be considerably larger than morphine to produce the same results; personal practice is to give about twice as large a dose of this remedy as of morphine. When the dionin has been entirely withdrawn, so that the patient can be comfortable without it, he is considered about half-cured. From that time on the object of the physician must be to build up the patient's health and vitality. Everything should be employed that will tend to restore him to his normal condition. C. J. Douglas (Merck's Archives, Sept., 1900).

## NEURASTHENIA.

**Treatment.**—One of the most important points in the treatment of neurasthenia is prevention. Intrapelvic troubles should not be allowed to go on unrelieved until they have resulted in the patient's prostration. Neither should any disease be allowed to prey upon the patient until his vitality is greatly lessened.

Affections of the eyes, ears, nose, and teeth, if unrelieved, act as causes in the development of neurasthenia; therefore these organs should be carefully examined, errors of refraction corrected, the decayed teeth repaired or extracted, and other diseases treated, if possible.

The treatment of the neurasthenic condition, after it is developed, consists of rest, partial or almost absolute; diet; and in many cases isolation. For those who are in the early stages of neurasthenia, with a fair constitution, partial rest, with fewer hours of business, and relief from some of their responsibilities may be attended by a complete recovery. Others require not only partial rest, but absence from business for prolonged periods. In many cases, especially in the profound neurasthenics, but little can be accomplished without rest, as nearly absolute as can be maintained. The patient should not be allowed to feed himself, the discharges from the bladder and bowel should be passed into receptacles in bed, and a nurse should wait upon him as completely as though he were suffering from some acute disease. The digestive organs should receive attention and a suitable diet, skimmed milk being the best, beginning with a small quantity, 2 or 3 ounces every three or four hours for the first few days. It is rare that a patient after he becomes hungry cannot take and digest a small quantity of milk. As soon



as the digestive organs will permit of it, the milk should be increased to the point of toleration, but it should never be carried so far that the patient becomes disgusted with it. As soon as it is possible to do so, a part of a meal can be given, finally a full meal a day, followed later by three full meals each day. By systematically and gradually increasing the feeding, several pounds of flesh can be put on the patient. At the same time that the rest cure is being undergone the nutrition of the muscles should be kept up by massage and electricity.

In most cases of neurasthenia, especially of the severer forms, isolation is necessary. They should be allowed to see no one, except the physician and nurse, until such time as, indicated by their improved condition, they show that they are able to see their relatives and friends without becoming depressed or talking about themselves. Absolute rest should never be carried to such an extent that the patient becomes bedridden. When the patient begins to beg to be allowed to remain in bed, it is time to get him out. J. T. Eskridge (*Phila. Med. Jour.*, Sept. 15, 1900).

### NOMA.

**Treatment.**—There are three features in the treatment of noma, viz.: surgical, medical, and mechanical. Every particle of the indurated friable tissue must be extirpated. For this purpose the sharp spoon is preferred.

As the condition is prone to recur at intervals until the patient is restored to health, it may become necessary to repeat the curettement, in which case the life of the patient depends entirely on prompt action.

Indications for medical treatment are active stimulants and reconstructives. Personal method is to combine camphor,

strychnine, and quinine to meet the first two, and some such drug as calcium sulphide or iodide of potassium, and in extreme cases saline infusions.

The mechanical treatment consists in keeping the buccal cavity on the affected side, together with the excavation, well packed with a deodorizing and antiseptic dressing, with the head so inclined that the saliva may dribble out of the mouth, the patient being constantly reminded to breathe through the nostrils, or, if very young, she should be compelled to do so.

Hydrogen peroxide may be used as a cleansing agent, followed by tamponing afterward with a sterile gauze saturated with a solution of oil of cassia, 2 to 4 minims; oil of gaultheria, 5 minims; and  $\frac{1}{2}$  drachm of hydrastis. The dressing should be changed frequently at first, and by the attendant himself, a constant lookout being kept for relapses. When it is evident that the process has been checked, the dressing may be applied four times a day, and later less often; but it should never remain until it produces irritation of itself. If there are uneven teeth, or teeth being pressed upon by tissue, producing excoriation, they should be at once removed. G. M. West (*Ther. Gaz.*, Sept. 15, 1900).

### PANCREATITIS, CHRONIC.

Chronic pancreatitis is frequently associated with biliary or pancreatic lithiasis, or with gastric, pyloric, or duodenal ulcer. Its course varies. The onset may be quite gradual and painless, or may be ushered in by a severe pain at the epigastrium followed by jaundice resembling a gall-stone attack and associated with nausea and vomiting, and perhaps followed by a feeling of chilliness or even a rigor. The pain, however, is not over the gall-bladder and

does not pass around the right side to the subscapular region, but is central and passes backward to the midscapular region or around the left side, thus resembling stomach rather than gall-bladder pain. The tender spot is usually an inch above the umbilicus in the middle line and not over the gall-bladder as in cholelithiasis. When once jaundice has come on it tends to deepen with each attack until it becomes continuous and chronic. The paroxysms of pain may be repeated more or less frequently or there may be no paroxysmal pain, merely a dull ache deeply seated, burning and boring in character. A swelling of the pancreas may sometimes be made out, but as the recti are rigid because of the pain and tenderness in the epigastrium, it can usually only be discovered under anæsthesia.

Loss of flesh and strength are well-marked symptoms in all cases. Vomiting may, in some cases, be absent, but there are usually a want of appetite and flatulent dyspepsia, and always a sense of fullness and weight at the epigastrium for some time after food. Jaundice is not necessarily present at first, though it is usually present at some stage of the disease and is often well marked, but, as was pointed out some years ago by Dr. Walker, of Peterborough, the stools are white even when the pancreatic fluid alone is absent from the intestine. Diarrhœa is often present and the stools are offensive and may be fatty. Albuminuria is common and glycosuria may occur, but the latter is probably only present in cases where the whole gland is affected. Fever may be absent, but in some cases the temperature runs a hectic course, always rising in the evening and falling in the morning. This is especially the case where ague-like paroxysms occur. Where

jaundice is present the pulse may be abnormally slow, and even when the temperature is raised the pulse-rate is not much elevated, though the character of the pulse may be poor. In the later stages, especially if the disease be associated with jaundice, hæmorrhages from the nose and the bowel, vomiting of blood and petechiæ in the skin show marked blood-degeneration, and death ensues from increasing weakness.

In the more chronic cases, especially when there is contraction of the head of the pancreas, there will be found a tumor formed by the distended gall-bladder, just as there is in cancer of the head of the pancreas, for which disease chronic interstitial pancreatitis is then apt to be mistaken and a hopeless prognosis given. In such cases the gall-bladder will be found to be distended with mucus, the bile which first filled it having become gradually absorbed, the backward pressure having prevented fresh bile from entering the ducts. This may occur so gradually as to be painless, and then the gall-bladder is free from tenderness, which is seldom the case when the distension is due to gall-stone. A. W. Mayo Robson (*Lancet*, July 28, 1900).

### PNEUMONIA.

**Treatment.**—At the inception of a pneumonia it is necessary that the alimentary canal be clear, and, if a cathartic be required, calomel and jalap are efficacious.

At this time in sthenic pneumonia there is high arterial tension, and acetic in proper dose and frequency is to be used. It is somewhat custom to administer it by putting 6 drops of a reliable tincture in 15 teaspoonfuls of water. A teaspoonful is given every half-hour for five doses, then every hour

until arterial relaxation is sufficient. This is usually reached after ten or fifteen doses in all. Alternating with this, and given in the same way, should be ordered tincture of *bryonia alba*. After the aconite is suspended, 3 grains of potassium iodide are dissolved in 18 teaspoonfuls of water, and a teaspoonful of this is given alternately with the *bryonia* every two hours, and this hourly alternation is continued during waking hours until resolution is well established. In some cases it will be found expedient to diminish the dose of iodide on account of browache, especially if given at hourly intervals. It is never found necessary to interrupt this continuous treatment, except by sleep; but should any agent be deemed necessary, its allied use need not interfere with the gentle and controlling influence of the two remedies thus administered. Opium and its products should not be used until other measures fail.

Food should be given every three hours. Milk should be supplied in small quantities. Many cases require no stimulation from beginning to end, and in nearly all it should be intelligently withheld until the acute process has abated or until there is evidence in the heart of lagging. Strychnine and digitalis may be given by mouth in alternation with alcohol as resolution approaches. Quinine, sparteine, in small doses may be given as convalescence continues; or if the appetite fails any one of the bitter vegetable excitants may be of benefit.

Cotton batting with oil-silk covering is a safe precaution where the temperature cannot be regulated or where a patient may be fractious. Excessive fever can be reduced by cold sponging or by covering the superficial arteries with cold compresses, and by ice-bags over

the heart. The effect thus gained will be as permanent as that produced by the cardiac depressants, and can be maintained or repeated, not only without danger, but with positive assistance to the heart. General venesection when applied to the proper condition is the most potent means to relieve an overburdened heart that can be adopted. In wet cupping the pneumonic process is interrupted and markedly modified. H. F. Williams (*Brooklyn Med. Jour.*, Aug., 1900).

### PROCTITIS IN CHILDREN.

**Treatment.**—The essential points in the treatment of proctitis may be briefly summed up as follows:—

1. Remove at the earliest opportunity the source of irritation.

2. Harsh and indigestible foods are to be discarded, and milk, soft-boiled eggs, soups, beef-juce, and albuminous foods substituted.

3. The bowel is to be cleared of any scybala that might be present by injections, Epsom salts, Sedlitz powders, and mineral waters.

4. In mild cases cold water applied to the hips and the anus or the injection of cold water into the rectum will be sufficient.

5. Patients should rest quietly in bed during the acute stage.

6. In chronic cases one should use frequent injections of astringent solutions, such as alum, zinc, silver, lead, and the sublimate. When due to thread-worms, a few injections of lime- or salt water in conjunction with santonin internally will destroy them. If the inflammation is due to gonorrhœa, frequent injections of water, as hot as the patient can bear it, do well. In a general way, the treatment consists in keeping the bowels open and in correcting



any errors in diet. S. G. Gant (*Internat. Med. Mag.*, Aug., 1900).

### RUBBER BALLOON IN OBSTETRICS.

The intra-uterine use of the rubber bag—metreuryisis or hystereuryisis, as it is called—is, in personal opinion, one of the most beneficial of recent achievements in practical obstetrics.

The technique is simple. If the canal will admit one finger, the external genitals are thoroughly disinfected, the portio vaginalis exposed by a Simon speculum, the anterior lip hooked down, the bag well disinfected by boiling, rolled upon itself, introduced into the uterus, and filled with sterile salt solution.

If the canal is not dilated, this is effected by tents, or a bougie is introduced and left until the necessary amount of dilatation has been secured. The bag is then introduced and left in position until expelled by the pains. If pains are not excited, the bag may be weighted.

The use of Simon's speculum is to be preferred. The specula of Trélat or Neugebauer, however, may be used, and, in case of necessity, the fingers alone answer very well.

With reference to the prognosis for the mother, there were no deaths in 45 cases noted. In 9 cases the puerperium was febrile for six days or less: *i.e.*, 20 per cent.,—a notable increase over the usual puerperal morbidity-rate in personal clinic,—7.8 per cent.

The results for the children were less favorable: 8, or 17.7 per cent., were born dead; 8 died shortly after delivery; and 4 later, leaving only 25, or 55 per cent.

Of the rubber balloons, that of Müller, made by Stiefenhofer, of Munich, is to be recommended as the most durable,

especially when permanent traction is required. For introducing the balloon, Chrobok's forceps is very useful. When the cervix is insufficiently dilated, a small Braun colpeurynter may be used at first, to be followed later by the instrument of Müller. W. Rubeska (*Archiv f. Gynäk.*, vol. lxi, No. 1; *Obstetrics*, Sept., 1900).

### SNAKE-BITES.

**Treatment.**—The most commendable treatment of snake-bite is as follows: One or several ligatures should be made above the wound, followed, perhaps, by deep scarifications; then injection of antivenene, if at hand. If the latter cannot be had, injections should be made of a solution of hypochlorite of lime, 1 to 60, at several points near the bite and elsewhere. Stimulation, if necessary, by either strychnine or atropine or alcohol; hypodermoclysis of physiological saline solutions; lavage of the stomach; artificial respiration for hours; and, not least of all, continuous encouragement of the victim, for a deep mental prostration goes together with the physical depression of the nervous centres. Gustav Langmann (*Med. Record*, Sept. 15, 1900).

### TEETH, CLEANSING OF.

The mouth is first to be rinsed, in order to remove coarse, loosely-adherent remains of food. The brush is next moistened; some mouth-wash is held in the mouth; the edges of the front teeth are brought together, and their external surfaces brushed up and down. The external surfaces of the molars are also to be brushed especially in this way, from above downward.

The mouth is next to be widely opened, and the grinding-surfaces of the bicuspids and molars are to be brushed

from before backward and from left to right. The inner surfaces, as well as the interstices and angles of improperly implanted teeth, are then to be cleansed.

The gums are, at the same time, to be freed from any deposits. The brush is then to be turned outward, and the mucous membrane of the cheek and the folds between them and the jaws cleansed. Finally, the tongue is brushed.

The dead superficial epithelial cells of the tongue, together with mucus, saliva, and bits of food, constitute the so-called "coating" of the tongue. Many persons use "tongue-scrapers" for the removal of this coating. The advantage of these tools are as doubtful as they are unappetizing. The coating can be much more thoroughly and safely removed by the aid of the brush. Any tendency to nausea which may be provoked in the beginning quickly ceases.

It is of the utmost importance to accustom one's self to retain a mouthful of water in the mouth while using the brush, in order that the product of brushing may be immediately taken up by the fluid, and not simply pushed higher and thicker, as is the case when the teeth are brushed with the mouth empty.

If while brushing the teeth air is slowly inspired through the mouth, the head properly inclined, and a suitable small brush employed, the advantages of the above-mentioned process will soon be apparent. C. Rose (*Dental Cosmos*, Aug., 1900).

### TUBERCULOSIS.

**Treatment.**—Cream, butter, bacon, and other fatty foods are all good for tuberculous patients, but there is nothing quite so valuable as codliver-oil. For a tuberculous infant, systematic in-

unction of the limbs and body with codliver-oil may be given every evening after the warm bath. This is apt to make the child "socially objectionable," but this is overlooked when the mother finds that the child is improving and steadily increasing in weight. A steady increase in weight is a splendid clinical omen in the treatment of tuberculous or quasituberculous patients. Edmund Owen (*Lancet*, Sept. 15, 1900).

**INTRAPLEURAL INJECTIONS OF NITROGEN-GAS.**—If one intends to use intrapleural injections of nitrogen-gas in tuberculosis, there are two things which it is advisable to do. First, to obtain the special apparatus as recommended by Dr. Murphy for injecting the gas; second, to see that the nitrogen-gas used is pure. Most of the nitrogen-gas on the market is nothing but compressed air.

The gas is best injected with the patient sitting in bed. At the point where the needle is to be inserted the chest is sterilized by the ordinary method. Personally the best result has been obtained by inserting the needle behind the posterior axillary line in about the eighth interspace, although Dr. Murphy generally makes the insertion in the fifth interspace in the anterior axillary line. If it be a middle- or lower-lobed tuberculosis, the injection should be made over the upper lobe, preferably in the third interspace just outside the mammary line. Chloride of ethyl may be used as a local anæsthetic. The trocar attached to the rubber tube connected with the gas-retort is easily inserted. The stylet in the trocar should be withdrawn when the rib is reached. The gas should now be turned on. The trocar should then be pushed in close to the margin of the rib. When the parietal pleura is punctured the trocar advances

rapidly, and the gas is seen to flow by the dropping of the upper portion of the gas-retort, first slowly and then more rapidly. If the gas does not flow readily at first, the trocar is moved back and forth, and on the least indication of the gas flowing the trocar should be held still. If adhesions are present the gas will not flow; the trocar should then be removed and inserted in the same manner in another place. When the gas is running freely into the pleural cavity it is found that from one to five cubic inches will pass in with each inspiration. The quantity of gas to be injected will vary considerably, and will range from 50 to 200 cubic inches. The amount to be injected will vary with each case according to the dyspnoea, distress, irregularity of the heart, and displacement of the mediastinal contents. If the patient's discomfort should suddenly become very great, the current of gas can at once be reversed by raising the cylinder and withdrawing part or all of the gas from the chest. Having injected as much gas as possible, the trocar should be withdrawn and the puncture covered with cotton wet with colloidion, and a firm compress placed over the puncture and a broad band of adhesive plaster over the compress.

If one hundred or more cubic inches of the gas have been injected, the respiratory sounds upon the injected side will be completely suppressed, the heart will be displaced, and if the injection is on the left side the apex will be carried as far as the median line. A number of times 200 cubic inches of nitrogen-gas have been personally injected, completely compressing the lung and markedly displacing the heart, and the patient has, in a few minutes, put on his coat and walked about without any apparent discomfort. The respirations are

always increased after the injections. The pulse-rate is generally lowered, and the patients complain often of a "tightness" about the chest. That the gas fills the chest-cavity can be proved not only from a physical examination of the lungs, but also by the placing of the heart, and by examining the patient with the x-ray after the injection. The radiograph shows conclusively the lung compressed, the diaphragm immovable, and the heart displaced. To obtain any marked and permanently beneficial results, the lungs should be kept quiescent for from three to six months or even longer. The more gas injected the longer it will remain and the less frequent need be the injection. The gas in some cases will remain three or four months without any apparent diminution. In other cases the gas will have to be injected at the end of from four to six weeks. Physical examination can easily decide when a second injection is necessary.

One of the most constant effects noted after injections is that there will be a marked increase in the expectoration during the first twenty-four hours, sometimes an increase of tenfold over the ordinary amount expectorated per day. After the first few days expectoration diminishes rapidly. The gain in weight of the patients is so constant and often so excessive after the injection that one is astonished and almost at a loss sufficiently to account for it. Upon the temperature the injections seem to have less effect than upon any of the other constitutional symptoms. Night-sweats are unaffected except in so far as they gradually disappear as the patient's general condition improves.

When the gas is absorbed and the lung can once more be examined, in the majority of cases no great benefit has



provement of the lesion can be noted. If permanent results are to be expected the chest-cavity must be kept filled with gas for six months at least.

Hæmorrhages of all varieties, from the daily spitting of blood-streaked sputum to profuse hæmoptyses, are at once controlled. If these nitrogen-gas injections have no other place in the treatment of pulmonary tuberculosis, their ability to arrest pulmonary hæmorrhage gives them a place which no other method at the present time can occupy. Henry P. Loomis (Med. Record, Sept. 29, 1900).

#### **TUBERCULOUS AND PURULENT JOINTS TREATED WITH LARGE-GLASS-SPECULUM DRAINAGE AND PURE CARBOLIC ACID.**

Up to two years ago it was extremely difficult to operate upon suppurating hips and prevent subsequent suppuration. But with the advent of the use of pure carbolic acid, no difficulty has been personally had with such joints. The profession is indebted to Dr. Seneca D. Powell, of New York, for one of the most useful discoveries ever made in surgery, which is the antidotal effect of alcohol to pure carbolic acid.

It is known that pure carbolic acid cannot be absorbed. How is it that it acts beyond the area of disease? For instance, in erysipelas of the skin the deeper lymphatics are all involved. In hip-joint disease the bacteria have found their way into the lymphatics remote from the joint, and, prior to use of carbolic acid, abscesses were personally found appearing an inch or more from the field of operation. It is personally explained upon a theory, and that is that carbolic acid unites with the albumin of the tissues, forming an albuminoid or albuminate which is a powerful

antiseptic. This new compound is absorbed into the lymphatics, destroying the bacteria. It must act in this way, because we observe in erysipelas that the temperature, six hours after its first application, frequently falls to normal. In hip-joint disease one observes after its application that the temperature may fall from 104°-105° F. to 99° or 100° in twelve hours, and will not rise again unless other foci of disease develop.

The method of application is simply this: The abscess-cavity is laid open. The opening into the capsule is found and enlarged and the joint explored. If there is extensive bone disease, the incision is lengthened and the capsule of the joint freely divided for half or two-thirds of its entire circumference, the head of the bone pulled out from the socket, the curette freely used, and the joint thoroughly irrigated with bichloride solution, 1 to 1000.

The joint is now filled with pure carbolic acid. It is allowed to remain one minute by the watch, after which the joint is thoroughly washed out with pure alcohol, and finally the alcohol is washed away with a 2-per-cent. solution of carbolic acid.

Instead of packing the wound or sewing it up, or introducing the collapsible rubber drainage-tube, the largest glass tube is used, that the cavity will take, which extends down to the joint and is just flush with the skin. This tube not only admits of perfect drainage, but enables the surgeon to see, day after day, just what is taking place in the joint. If further suppuration or extension of disease takes place, it is usually treated through this large glass tube by curetting and the use of carbolic acid and alcohol. Packing can be introduced through the tube to se-

cure perfect drainage from the joint. These tubes vary in size from half an inch to two inches and a half, and they are of various lengths. A drainage-tube for a small child should be about an inch in diameter. In other words, the glass tube is fitted to the parts, as large as they will take. The tube is worn until granulations fill in from the bottom of the wound.

When it is not necessary to curette away pieces of dead bone or foci of disease in the neck or head, the wound can be closed with a smaller drainage-tube. From nine to twelve pounds' extension is applied during the bed-treatment, after which splint and crutches are adjusted and the patient is sent home. Where disease exists in the acetabulum, particularly if the head of the bone is involved, it is better to remove the great trochanter.

If the abscess has burrowed into the iliac fossa, Poupart's ligament should be detached from the anterior-superior spinous process and the attachment of the abdominal muscles to the crest of the ilium sufficiently to allow of a free view of the iliac fossa. If the disease is extensive and the abscess extends back as far as the sacro-iliac synchondrosis, a drainage-tube is put through from this point to the back.

In 70 operations personally performed, in former years at least 50 excisions would have been performed. As it is, in the 70 operations, 20 excisions have been performed. In all the other cases the joints have been freely opened and portions of bone and cartilage which were found dead in the joint removed in nearly every one. Fifteen patients who had been subjected to excision of the hip left the hospital with their splints on four weeks from the day of the excision; 3 left the hospital at the end of

two months; 2 required subsequent operations, and 1 of these left the hospital at the end of four months, and the other, with extensive disease of the pelvis, has been in the hospital five months and will be discharged within a week or two; and three more are reported as having been operated on last week. In all the cases requiring excisions or extensive bone operations the patients were discharged from the hospital in an average of three weeks from the time of the operation, wearing hip-braces or using crutches. A. M. Phelps (N. Y. Med. Jour., Sept. 15, 1900).

#### UMBILICAL CORD, TREATMENT OF.

The best ligature is  $\frac{1}{16}$ -inch wide sterilized tape. This tape should be kept in a closed bottle filled with boric-acid saturated solution. Antisepsis is of great importance in treatment of the cord, inasmuch as umbilical sepsis is a very frequent and fatal affection. The cord should be gently squeezed, or milked, toward the abdomen before tying the ligature, to avoid including a possible hernial protrusion of gut and its inclusion in the ligatured stump.

The tape ligature should be one foot long to enable one to make sufficient traction to cut through Wharton's jelly. Unless the ligature is tied tight enough to do this, it may get loose through shrinking of this jelly and permit hæmorrhage. Here, likewise, lies many a cause of infant-death.

It may or may not be best to tie the placental end of the cord. Personal rule is to let the cord bleed when it is much distended with blood just before it is severed. A certain amount of stiffness in the placental body is an assistance in its expulsion by the uterus; but, inasmuch as so many uteri partially close in the lower segment before the

placenta has come away, it is better to render the placenta as small as possible by letting the blood drain out of it.

In cutting the cord one should gather the cord in the palm of the hand and cut it a half-inch from the ligature with some short, blunt scissors.

In dressing of the cord a sensible precaution is to burn the raw ends of the stump with nitric acid or the actual cautery, though this is often omitted. The cord-stump being about  $1\frac{1}{2}$  inches long, it should be well dusted with a powder composed of equal parts of bismuth and boric acid and wrapped with a 5-inch pad of sterilized gauze which has been split from one side to the centre and then bound tightly to the abdomen with the customary binder. E. A. Ayers (Obstetrics, Sept., 1900).

### VACCINATION.

The best results and the neatest and most typical scars are obtained by making small scarifications. The scarified place should be but little over one-sixteenth of an inch square. It should never be greater than one-eighth inch square. The scar is always larger than the original scarification, varying from one-quarter inch to many times greater, depending upon the manner in which it is done and the patient operated upon.

A great mistake is made if the patient is allowed to dress the vaccination with vaselin or any ointment. The best results are obtained by keeping the sore perfectly dry from start to finish. The simplest and quickest method of protecting the scarified surface is to put a small pledget of absorbent cotton upon

the place after the lymph is dry, and over this an adhesive strap. As soon as the arm begins to get sore the cotton is removed and a fresh piece strapped on. This insures perfect protection. It is needless to say that surgical cleanliness is to be practiced at all times. Antiseptics, if used to cleanse the arm, must be carefully removed before applying the lymph, so as not to kill the vital principles of the virus. This small item is often forgotten, and the consequence is no scar is obtained.

Occasionally a lump forms at the site of inoculation; this lump is spongy, about the size of a pea, and red, covered, at times, by a small scab. It generally remains a week or ten days, perhaps longer, and then dries up, leaving no scar. Many pronounce such cases successful. This is not true, and the patient is not immune. Any vaccination to be successful must leave a scar.

Two places of inoculation at the same time are better than one. These two scarifications, made as stated above, and about two inches apart, do not make as sore an arm as one large scarification. It has been proved that two or more scars give greater immunity, for the regulation time, than one. The immunity obtained from two scars is greater for the time being, but does not last any longer than if only one scar was present.

It is only a question of a short time when the quill or ivory point will be a relic of the past. The most scientific method is the use of the hermetically-sealed capillary tubes. R. K. Hutchings (Chir. Gaz., Sept. 15, 1900).



## Monographs Received.

The editor begs to acknowledge, with thanks, the receipt of the following monographs:—

The Relation of Pathological Conditions of the Ethmoid Region of the Nose to Asthma. The Pathology. By Henry L. Swain, M.D., New Haven, Conn., 1899.—Bronchial Asthma, its Relation to Nasal Disease. By Henry L. Swain, M.D., New Haven, Conn., 1900.—Sigmoid Sinus-thrombosis. By James F. McKernon, M.D., New York, 1900.—A Contribution to the Technique of Modern Uranoplasty. By James F. McKernon, M.D., New York, 1900.—Estivo-Autumnal Fever in New Orleans: Summer and Autumn, 1899. By H. A. Veazie, M.D., New Orleans, 1900.—The Indications for the Use of Alcoholic Stimulants in Typhoid Fever. By J. H. Musser, M.D., Philadelphia, 1900.—Amyloid Disease of the Liver with An Abnormally-Enlarged Left Lobe. By J. H. Musser, M.D., Philadelphia, 1900.—Meralgia Paræsthetica. By J. H. Musser, M.D., and Joseph Sailer, M.D., Philadelphia, 1900.—Cancer of the Common Bile-duct. By J. H. Musser, M.D., Philadelphia, 1889.—A Case of Malta Fever. By J. H. Musser, M.D., and Joseph Sailer, M.D., Philadelphia, 1900.—Some Cases of Dilatation of the Stomach. By J. H. Musser, M.D., and J. D. Steele, M.D., Philadelphia, 1900.—Hæmorrhagic Diathesis in Typhoid Fever. By J. H. Musser, M.D., and Joseph Sailer, M.D., Philadelphia, 1899.—On the Use of Antitoxin in Diphtheria, with Special Reference to Small and Frequently-Repeated Doses. By J. H. Musser, M.D., Philadelphia, 1900.—A Case of Hereditary Ataxia, with Generalized Bilateral, Choreiform, and Athetoid Movements. By Bernard Oettinger, M.D., Denver, Col., 1900.—Infection Through Upper Air-passages. By W. Scott Renner, M.D., Buffalo, N. Y., 1900.—Some Measures for the Prevention of Crime, Pauperism, and Mental Deficiency. By G. Hudson Makuen, M.D., Philadelphia, 1900.—Some Observations upon Syphilitic Manifestations in the Uveal Tract—The Iris, Ciliary Body, and Choroid. By Paul Turner Vaughan, B.Sc., M.D., Hot Springs, Ark., 1900.—Some Auxiliaries to Climatic Treatment of Phthisis. By J. E. Stubbett, M.D., Liberty, N. Y., 1899.—The X-rays as a Diagnostic Agent in Pulmonary Diseases. By J. E. Stubbett, M.D., Liberty, N. Y., 1900.—Annual Report of the Loomis Sanitarium for Consumptives. By J. E. Stubbett, M.D., Liberty, N. Y., 1900.—Subsequent Histories of Patients Apparently Cured under Administration of Antitubercle Serum as an Auxiliary to Climatic Treatment. By J. E. Stubbett, M.D., Liberty, N. Y., 1900.—A Crushable Button as an Aid to Suturing in Intestinal Anastomosis. By R. C. Coffey, M.D., Portland, Ore., 1900.—The Alexander Treatment: a Relief and Remedy for Malignant Growths by Hypodermic Injection. An Account of a Demonstration of Results obtained by its Use, made in the Presence of Forty Members of the Medical Profession, in Boston, April 17, 1900. By A. C. Alexander, M.D., Penacook, N. H., and F. O. Webber, M.D., Cambridge, Mass., 1900.—Behandlung von Aneurysmen mit Elektrolyse durch eingeführten Draht. Von Dr. Albert Bernheim, Philadelphia, 1900.—XIII Congrès International de Médecine: Résumés des Rapports présentés à la Section d'Anatomie Pathologique; Résumés des Rapports présentés à la Section de Thérapeutique Pharmacologie et Matière Médicale; Résumés des Rapports présentés à la Section d'Otologie; Résumés des Rapports présentés à la Section de Dermatologie et de Syphiligraphie. 1900.—Sheep and Wool: A Review of the Progress of American Sheep Husbandry. By J. R. Dodge, U. S. Department of Agriculture, Washington, D. C., 1900.—Agricultural Exports of the United States, by Countries. 1895-1899. By F. H. Hitchcock, U. S. Department of Agriculture, Washington, D. C., 1900.—Agricultural Imports of the United States, by Countries. 1895-1899. By F. H. Hitchcock, U. S. Department of Agriculture, Washington, D. C., 1900.—Turkestan Alfalfa. U. S. Department of Agriculture, Washington, D. C., 1900.—List of Free Employment Agencies for the Use of Farmers. U. S. Department of Agriculture, Washington, D. C., 1900.—Progress of the Beet-sugar Industry in the United States in 1899, with a Supplementary Report on the Cane-sugar Industry of the Hawaiian Islands. U. S. Department of Agriculture, Washington, D. C., 1900.

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## Cyclopædia of the Year's Literature.

### ASTHMA.

**Etiology.**—Walker Downie<sup>1</sup> believes that, in the majority of cases of bronchial asthma complicated with the presence of nasal mucous polypi, if the asthma is not relieved by the removal of the new growths, it is because they have not been completely removed.

The majority of cases of asthma seen by a rhinologist have usually some very evident intranasal lesion; so that a specialist is not qualified to say in what proportion of cases of asthma the condition

<sup>1</sup> Glasgow Med. Jour., Oct., 1900.



is the result of an intranasal abnormality. But, in personal opinion, there are many cases of what is described as pure bronchial asthma in which the exciting cause lies unsuspected within the nares.

**Treatment.**—According to W. A. Wells,<sup>2</sup> during the paroxysm an easy and comfortable position should be secured, all constriction removed from the neck and chest, and, care being taken to cover the shoulders to avoid taking cold, the windows may be opened in order to admit as much fresh air as possible. It is important to have a firm, confident manner in managing these cases.

In great favor with the patient are the so-called fumigations, of which the following is an excellent formula:—

℞ Pulv. stramonii,  
Pulv. belladon. fol., of each, 375  
grains.  
Pulv. potassii nitrat., 90 grains.  
Pulv. opii, 15 grains.—M.

Another method is to smoke cigarettes made from different ingredients. One combination will succeed in one case and another in another. Patients who are not smokers will often experience relief from the ordinary tobacco cigarette.

Arsenical cigarettes are also very efficacious. They may be made by saturating paper with a solution containing 1 grain of arsenite of potassium in about 6 drachms of water. A mouth-piece should be used in order to avoid having the paper itself come in contact with the lips.

Inhalations employed are chloroform, ether, amyl-nitrite, pyridine, and iodide of ethyl. Great care must be observed in the administration of inhalations, as by some patients they are not well borne. Alarming collapse may result both from ether and chloroform. Amyl-nitrite should not be given except in the begin-

ning of the paroxysm, before the stage of vasodilatation has been reached.

Pyridine is employed either by inhaling 10 or 15 drops put upon a handkerchief or 1 to 1 $\frac{1}{4}$  drachms in a saucer. It has generally been found to give almost instantaneous relief.

Of medications used to overcome the attack, nothing has found such general favor as subcutaneous injections of morphine and atropine, separately or combined. Morphine may be called the sovereign remedy, but there are many contra-indications to its use.

In the interval attention to the hygienic care of the patient is of the utmost importance, not only in the carrying out of certain specific regulations in regard to diet, air, water, exercise, etc., but also in setting a right direction to the patient's mental habits.

Draughts, of course, are to be avoided, but so also must the stuffy, vitiated air of a closely-shut-up apartment. The bronchitis, which is nearly always in more or less degree associated, will fare much better if the subject will keep his lungs as well as possible filled with pure, fresh air.

There seems to be no specific climate for the asthmatic. One is best at the seashore, another in the mountains, and a third is free from attacks only while living in the city. In general, a woody country, especially in the neighborhood of pines, is better than an open country or land under cultivation. He must avoid high altitudes or places in which certain injurious vegetation or unhealthy odors prevail. The patient from experience learns what localities are suited to his particular case.

Heavy meals and late suppers must be abstained from. Certain articles which

<sup>2</sup> N. Y. Med. Jour., Oct. 20, 1900.

the asthmatic has found harmful in his case he will take care to avoid. As it is generally the flatulent form of dyspepsia from which the asthmatic suffers, he should be very sparing of the carbohydrates. Cheese, sausages, sweetmeats, pies, coffee, nuts, and preserves are the articles which must be struck from his dietary.

Walking a few miles every day is a practice which has proved serviceable in many cases. Cold showers and early morning plunges are of undoubted value. The Turkish bath is also recommended.

Removal of the cause is an injunction which applies both to the external provocatives of the attack and to the diseased state of the organs.

Iodide of potassium is a favorite remedy for asthma. Sée gives 2 grammes (about 30 grains) daily for a period of months, making an interruption of one day in every eight or ten. Later on he reduces the dose to 1 gramme (15 grains) daily. Other iodides, such as those of sodium and ammonium, are also used, but œdema of the lungs occurring in the course of the use of any of the iodides is an indication to discontinue them immediately.

The prescription of Fothergill will be found often of benefit:—

R Ammon. iodid., 90 grains.  
Ammon. bromid., 2 drachms.  
Syr. Tolut., 2 ounces.  
Tinct. lobeliæ, 3 ounces.

M. Dose: One teaspoonful.

Of modern remedies, that which holds the first place in combating the constitutional disposition to which the asthmatic is prone is piperazin.

Atropine has been lately strongly recommended by Noorden, to be given in the intervals. He begins with a daily dose of  $\frac{1}{120}$  grain, increasing gradually until the

patient is taking a daily dose of  $\frac{1}{10}$  grain. He then gradually diminishes the dose. This treatment is carried out for months at a time, with periods of intermission.

Ernest Kingscott\* says that, having ascertained the vagal or sympathetic cause of irritation (which is not such a difficult matter as might appear, from the fact that there are generally leading symptoms—*e.g.*, dyspepsia, cough, uterine discharge, albuminuria, headache, etc.—which serve to indicate the site), one should endeavor to remove it.

There is no better or surer means to reduce cardiac dilatation than the Sebolt treatment, whereas emphysema may be reduced by breathing exercises suggested by Harry Campbell. The following is personal special manner of conducting them:—

The upper part of the thorax being fixed and the breathing therefore mostly abdominal, it should be the endeavor of the physician to modify these relations. The patient is instructed to place a towel at the back of the waist, then quickly to blow out as though he were trying to inflate a paper bag, and as he does so to bring firmly the ends of the towel forward until the hands meet in such a manner that the towel shall overlap the lower ribs. The lungs are now empty and the lower ribs fixed by the constriction of the towel.

Now the patient, while being careful to retain the towel in its position, inhales slowly, but forcibly, through the nose. As the lower part of the thorax cannot expand, owing to the pressure of the towel, the upper thorax is compelled to do so. Cuses may gain as much as two or three inches in chest-expansion by these means.

As nearly all the cases suffer from sub-

\*Therap. Gaz., Oct. 15, 1900.

oxidation of the blood and anæmia, inhalations of pure oxygen-gas several times a day, and the peptonate of iron are of value.

The patient should also be encouraged to be in the open air as much as possible.

### COCAINE ANÆSTHESIA BY LUMBAR PUNCTURE.

The following details of the experiments and advancements in this method of anæsthesia are quoted from a brochure given J. B. Murphy<sup>1</sup> by Tussler:—

For these injections a Pravaz syringe, admitting of sterilization, is used (hypodermic with asbestos piston). The needle must be sufficiently long to penetrate easily the space between the skin and the subarachnoid space. The needle must be of platinum. It must be easily sterilized, and be nine centimetres long. External diameter must be 1.1 millimetre; the internal diameter 0.8 millimetre. It must be solid, so as not to bend when it comes in contact with the vertebral column. Its end must have a short bevel. A 2-per-cent. solution of cocaine is employed. This solution must be sterile and recent; old solutions must be discarded. This is important. The fluid injected must be carefully sterilized. The solution is prepared as follows: The solution is exposed to a temperature of 80° C., in a water-bath, for 15 minutes, then it is kept in a temperature of 38° C. for 3 hours; it is again brought to a temperature of 80° C., then allowed to cool to 38° C. This operation is repeated five or six times in succession. The anæsthetic properties of the cocaine are not altered.

The operative technique is as follows: The patient is in the sitting posture, both arms carried forward. The field of injection is thoroughly aseptitized and the iliac crests are located. An imaginary line connecting these two crests passes

through the fourth lumbar vertebra. By injecting beneath that line one penetrates the medullary canal. As soon as this spinous process has been located with the left index finger, the patient is told to bend forward so as to make a big bag. This bending forward causes a separation of 1.5 centimetre between the vertebra on which the physician has his index finger and the subjacent vertebra. Then it is always wise to tell the patient: "I am going to stick you with a needle; you will feel some pain, but do not move." The injection is made with the right hand, the needle being inserted to the right of the vertebral column, about 1 centimetre from the line of the spinous process. The needle goes through the skin, through the lumbar aponeurosis, through the muscles of the sacro-lumbar region, and penetrates into the lamellar space, and at last penetrates into the spinal canal. As soon as the needle is in the subarachnoid space it meets no resistance, and from it escapes a clear, yellow fluid. This fluid is the cerebro-spinal fluid, and escapes drop by drop. The surgeon must never inject a solution of cocaine before he has seen the cerebro-spinal fluid escape through the needle. After he has seen this fluid escape through the needle, he attaches to the needle a syringe containing 1 cubic centimetre of a 2-per-cent. solution of cocaine. The injection is made slowly; it should be completed in one minute. The dose injected should not exceed 15 milligrammes of cocaine, a 2-per-cent. solution being employed. The injection terminated, the needle is rapidly removed and the needle puncture is closed with sterilized collodion. One is to note the precise minute at which the injection is terminated, and then wait. The patient can be questioned as

<sup>1</sup> Chicago Clinic, Sept., 1900.



to the subjective sensation which he experiences. After a certain lapse of time, which in personal observations varied according to the patients, from about four to eight or ten minutes, the patient would complain of a tingling sensation and numbness of the feet. This numbness extends to the legs. The operator can now begin to operate. Gradually a sensation to pain and heat disappears. Contact sensation persists. Toward the last the motor system may be affected. From four to ten minutes after the injection analgesia is usually complete. Most often it extends to the thorax; occasionally to the axilla. It is not an approximate analgesia; it is complete; it is absolute. The duration of analgesia is from one to one and a half hours.

The position which the patient is made to assume during the course of the operation does not at all modify the analgesia.

The following incident may happen in the course of the puncture: In subjects whose spinal column is deviated, as in scoliosis, the line of the spinous process can only be found with difficulty, and, owing to the fact that the vertebral laminae have lost their normal relations, the puncture may be difficult. This obstacle, however, can be overcome by patience on the part of the operator. If the needle strikes against a vertebral lamina, one should change the direction of its point, either upward or downward, but should not pull it back and forth. This pulling back and forth along the blunt needle may succeed in breaking it. The better thing to do is to remove the needle and make another puncture higher up or lower down.

Usually the patient complains of epigastric weight, a feeling of epigastric coldness. They are anxious; they are nauseated; emesis is frequent. These accidents may occur during the operation,

a few minutes after the puncture, but they will usually occur in the few hours that follow the puncture. These accidents are very frequent. Emesis has been personally noted 50 times in 63 operations; the vomit is mucous or bilious; it is not abundant; it yields readily to the ingestion of ice. Headache occurs more frequently than emesis. In two-thirds of the cases it is light headache, a simple heaviness. It disappears in a day following the operation. It can, however, be a very severe headache, provoking insomnia, and disappearing only at the end of forty-eight hours. Profuse sweats, some dilatation of the pupils, some shaking of the limbs, and some rapidity of the pulse have been noted. All these accidents have disappeared twenty-four hours after the operation. In 40 patients a chill was noted after from ten to fifteen minutes.

Children and hysterical subjects are considered as being poor subjects for this method of anæsthesia. It is well to put a simple compress over the patient's eyes.

In the course of an experience covering 35 cases of analgesia produced by the injection of cocaine and other solutions into the subdural space in the lumbar region, for operations varying in length and severity from simple amputation of a toe to abdominal hysterectomy and colicystotomy, George Ryerson Fowler\* has met with some mechanical difficulties leading to errors of technique which may confront the surgeon at any time in the employment of this method. As a result of this experience he has devised the following instrument:—

The instrument consists of a double needle, one passing within another. The inner needle is of steel, and is capable of being projected beyond the outer, or platinum, needle, and there secured by a

\* N. Y. Med. Jour., Oct. 20, 1900.

bayonet-lock joint device after the instrument has been introduced for half or two-thirds of the distance. A glass bulb is arranged to receive the cerebro-spinal fluid as it is withdrawn by the action of an aspirating bulb by means of a vacuum which has been secured and held until the needle is partially introduced. Turning the stop-cock which holds the vacuum permits the latter to act upon the lumen of the needle, from which is aspirated any blood which may have gained entrance thereto, and causes the prompt appearance in the glass bulb of the cerebro-spinal fluid as the needle enters the subarachnoid space, and that in quantities under the control of the operator.

A second inner needle should always be at hand in order to avoid loss of cerebro-spinal fluid during the delay incident to clearing the first needle should this become blocked and require withdrawal.

The *modus operandi* is as follows: A vacuum having been obtained by compressing the bulb, and held by turning the stop-cock, the instrument is introduced with the needle-points upon the same level, the proximal one of the two bayonet-locks securing them in this position. When the instrument is well buried in the tissues, the vacuum is turned on by means of the stop-cock, and when it is estimated that the spinal canal is nearly reached, the inner needle is projected and secured by the distal one of the bayonet-locks, the inner, or finer, needle only entering the subarachnoid space, which entrance is at once announced by the flow of the clear and limpid cerebro-spinal fluid into the glass bulb. The latter is then detached from the instrument, the rubber-tubing coupling remaining *in situ*, and to the latter the glass syringe with asbestos packing is attached, previously charged with the requisite amount (from  $\frac{3}{16}$  to  $\frac{4}{16}$  grain) of cocaine

dissolved in from 20 to 30 minims of sterilized water. This or any other solution employed should be slowly injected, from 15 to 30 seconds being occupied in this portion of the procedure.

Should the needle appear to have reached the proper depth, and no cerebro-spinal fluid appear in the bulb, the inner needle may be withdrawn and cleaned with a stylet, or a duplicate inner needle introduced, the outer one acting as guide, thus avoiding a second puncture. The latter would be of slight account in the case of the extradural structures; repeated invasions of the spinal canal itself, however, in the vain attempt to procure cerebro-spinal fluid by means of a needle with an occluded lumen is a very undesirable procedure.

As an anomaly that may be met with in the attempt to practice the cocaine anæsthesia of the cord, Ernest Laplace<sup>6</sup> gives the following case as worthy of being recorded: M. H., aged 42 years, suffered with cholelithiasis. There was a history of syphilis. The operation was cholecystostomy. On October 6 cocaine anæsthesia was attempted by injection into the spine. The fifth lumbar interspace was selected, according to Tuffier's directions. The needle used was the same as that used by Tuffier in his numerous cases, and which was personally brought from Paris, and was used on one previous case. No difficulty was found in introducing the needle in the proper place, but no cerebro-spinal fluid exuded. It was introduced several times in this space, then in the fourth, then in the third, without allowing cerebro-spinal fluid to exude. All care was taken to exhaust the air with the syringe after the plan used by Tuffier, and to insure that the needle was not plugged, but to no

<sup>6</sup> Phila. Med. Jour., Nov. 3, 1900.

avail. Thus, twelve punctures were made, the needle surely reached the cord and touched it, for after the point fell on the vertebra on one side, and by moving slightly it penetrated the intervertebral space; it was pushed deeper and deeper and on reaching the cord gave, as the patient expressed it, "a terrible electric shock" to her extremities. Nothing but blood would be drawn into the syringe when the needle was gradually withdrawn after suction had been made. It was then judged improper to inject cocaine solution, for the absence of cerebrospinal fluid would have limited the action of the cocaine locally instead of anæsthetizing the course of the spinal cord. Possibly there was an obliteration of the sac in that region due to chronic syphilitic infection. The patient was subsequently operated upon under ether.

Rudolph Matas,<sup>7</sup> having experienced some difficulty in reaching the spinal canal in his first cases of spinal cocaineization in which he had resorted to Quincke's puncture as recommended by Bier, investigated the subject on the cadaver and arrived at the conclusion that the space between the fourth and fifth lumbar vertebræ is the best suited for puncture and injection. This, however, as he has since found out, is not always the best point, and he has in one case been compelled, after failure to enter at the fourth intervertebral space, to try Chipault's sacro-lumbar foramen between last lumbar and sacrum, with success. In another case, a very fat patient, he only succeeded in the second intervertebral space. Fortunately all the spaces, from the second lumbar to the lumbo-sacral, are available and the injections can be safely made in any of these.

The dorsal route also is accessible as high as the sixth space, but prefer-

ence should always be given to the lumbar spaces. The average size of the interlamellar spaces through which the needle enters the spinal canal in the lumbar region varies from 18 to 20 millimetres in transverse and from 10 to 15 millimetres in vertical diameter and the point of a No. 10 or 15 French conical urethral bougie could be introduced into the space without difficulty in an adult. The distance to be traversed by the needle varies from 7 to 8 centimetres, and much less in thin adults.

Special attention must be given to the exact dose of cocaine injected and to the aseptic preparation of the solution. Tuffier invariably uses a 2-per-cent. solution of cocaine, of which he injects 1 cubic centimetre (15 minims). The total dose, he insists, should never exceed 15 milligrammes, or 1  $\frac{1}{2}$  centigrammes.

Personally, a cocaine solution, 1 per cent., sterilized by heat (fractional method) is used. When using the 1-per-cent. solution 1 cubic centimetre is first injected and the result is waited for, the needle and syringe being left *in situ*; if the effects are not pronounced in 8 or 10 minutes, another cubic centimetre is administered, when, as a rule, the result is satisfactory. In the last three cases Matas has become so confident of the effect that can be obtained with 1 centigramme of the drug that he now injects and withdraws the cannula at once and seals the puncture with cotton and flexible collodion. In preparing the solution in the last cases the method adopted was as follows: Five tablets, each containing  $\frac{1}{2}$  grain of cocaine hydrochlorate;  $\frac{1}{40}$  grain of morphine hydrochlorate;  $\frac{1}{3}$  grain of sodium chloride, were dropped into 100 minims of hot distilled water and dissolved. The solution was ~~then~~ sterilized



by the fractional method. Twenty minims of this solution represent  $\frac{1}{8}$  grain of cocaine,  $\frac{1}{40}$  grain of morphine, and  $\frac{1}{8}$  grain of sodium chloride. The syringe, which contains 30 minims, was filled with the solution and 22 minims were injected; the excess of two minims is allowed for waste. The solution should always be used warm, about  $90^{\circ}$  to  $100^{\circ}$  F. The effects following the injection of this mixed cocaine-morphine-saline solution were satisfactory. The tablets used were those sold for the ready preparation of Schleich solution No. 1 by several well-known and reliable manufacturers.

By far the greater danger from the use of this method of anæsthesia lies in the effect of the anæsthetic drug itself. That the toxic effects of the cocaine injected may give rise to serious, alarming, and even fatal manifestations cannot be doubted. These bad effects may show themselves immediately during the acme of the anæsthetic period, but more constantly in the post-anæsthetic stage and twelve hours after the injection. In justice to the method it must be said, as Tuffier has pointed out, that they are observed whenever more than one or two centigrammes of cocaine has been injected.

S. Marx<sup>8</sup> has a tabulated record of the conduct of forty-two cases of labor in which medullary analgesia had been employed almost from beginning to end. At first, he made use of eucaïne, but with practically no results. Some of the failures were due to the inertness of the cocaine from its having been repeatedly sterilized by heat. After various experiments, he has come to the conclusion that the best way is to carry two sealed vials, one containing  $\frac{1}{2}$  grain of the muriate of cocaine, and the other 30 minims of sterile water. When mixed together, 10 minims of the resulting solution repre-

sented  $\frac{1}{8}$  grain of cocaine. In obstetrics he has yet to record a failure with this method of anæsthesia.

He recognizes only two dangers from it, viz.: sepsis and cocaine poisoning. A needle three or four inches long, of fine temper, and with a short bevel, should be selected. Long needle-points might penetrate beyond the point of selection and do injury. The trocar point is the preferable one. To insure absence of pain from the puncture in the skin, a freezing spray may be used. In a period of from two to thirty minutes the anæsthesia is ushered in, often rather suddenly. The operation can usually be begun as soon as firm pinching of the labia majora causes no pain. Transient vomiting is apt to be associated with the ushering in of the anæsthesia. Some annoyance has resulted from severe headache. This can be avoided by giving 30 or 40 grains of bromide about two hours previously. If this is not sufficient,  $\frac{1}{150}$  grain of hyoscine may be given subcutaneously in the anæsthetic area. When anæsthesia is complete spontaneous bearing down does not occur, but when the patient is told to bear down she does so as vigorously as when not anæsthetized. There is no greater disposition to bleeding than in ordinary cases. Personal rule in the hospital has been to inject when the pains become severe. The ease with which the cervix can be dilated in a cocainized woman is a matter worthy of note. Failures sometimes occur, but there is no contra-indication to the use of chloroform under such circumstances.

S. Ormond Goldan<sup>9</sup> has used medullary analgesia in 20 cases of various kinds. He does not believe that this method is superior to the three general anæsthetics

<sup>8</sup> Med. Rec., Nov. 10, 1900.

<sup>9</sup> *Ibid.*

ordinarily in use. To prevent rusting of steel needles from boiling and sterilization, they should be dried in the flame of an alcohol-lamp. A platinum needle is too soft. An "attenuated" needle of fourteen-karat gold having a short bevel is personally recommended. A metal syringe with a solid metal piston is preferred. The cocaine is carried divided into powders, each one being wrapped in tinfoil and containing  $\frac{1}{4}$  grain.

Vomiting occurred in about half of the patients. Many of them were pale and slightly cyanosed at first, but later the face became suffused. More or less profuse perspiration was observed in all but two cases, probably as a result of paralysis of the sympathetic. There was a slight rise of temperature in most of the cases. Headache was present in about half of the patients; in four it was quite intense. Two of the patients had muscular rigidity of the back-muscles and of the back of the head. In one patient this had persisted for one week. Anæsthesia was not induced in three cases. Toxic symptoms appeared in one case: an obstetrical case. This patient had a very intense headache for two days following the injection. Cocaine introduced into the subarachnoid space differs in its action in no way from that observed when it is injected into the general circulation, except that it is possibly less toxic. Some patients are easily influenced by small doses; others require comparatively large doses. The individual susceptibility of the patient to cocaine must be determined in the same way as in giving morphine to a stranger.

J. Riddle Goffe<sup>10</sup> has performed hysterectomy in two cases by means of the intra-spinal injections of cocaine. The immediate effects are no more disagreeable than those of ether or chloroform and are entirely devoid of danger. What remote

consequences may develop as the result of such interference with the spinal fluid and the intraspinal pressure, that this method involves can only be determined after more prolonged observation. Up to the present time, however, no detriment to the patient has attended the procedure, although observations have extended over a period of two years. The amount of the drug used varies from  $\frac{1}{12}$  to  $\frac{1}{2}$  grain, but the usual dose is  $\frac{1}{6}$  or  $\frac{1}{4}$  grain. The analgesic effect extends usually from the toes to the umbilicus, and operations may be performed with immunity to pain on any parts below the latter point.

A. Palmer Dudley<sup>11</sup> has tried this method of anæsthesia in only a comparatively small number of cases of general surgery, but in enough to make him far from enthusiastic regarding it. One of the disagreeable features of this form of anæsthesia has been the associated nausea. Symptoms of cocaine poisoning were marked in most of personal cases. In four of the cases an annoying feature was involuntary stools. The retching is exceedingly embarrassing in abdominal work. The intense headache seemed much worse than the after-effects of ether or chloroform. General surgical cases certainly must be as carefully prepared as for ether or chloroform.

J. Blon Bogart's<sup>12</sup> experience with this method covers 26 cases. In this series there have been 4 operations for hernia, 2 amputations of the leg, 2 amputations of the great toe, 1 excision of the malarial bone of the front foot, 1 excision of the hip, 1 double osteotomy for knock-knee, and 3 vital cases. His experience with the method has not been uniformly satisfactory, anæsthesia not having been

<sup>10</sup> Med. Surg. Oct. 12, 1900.

<sup>11</sup> Med. Rec., Nov. 10, 1900.

<sup>12</sup> *Ibid.*

secured in the third and fourth cases. Since, however, he has adopted the plan of making the puncture between the third and fourth vertebræ, securing the escape of some of the spinal fluid, and boiling the cocaine for only two minutes, there have been no failures. The metal syringe with solid piston is objected to because it is impossible with it to tell whether the instrument is in proper working order. In only 2 cases has there been vomiting while the patient was in the operating-room, and that has been transient. In 1 case there has been an involuntary evacuation of the bowel. Of the 25 cases there were 7 failures. In 1 of the cases of failure a very large needle had been used, and as soon as the syringe had been removed the injected fluid had run out. In connection with the statement that the bowel often showed sensitiveness to manipulation, one of the cases was an operation for the closure of a faecal fistula. Although this had necessitated much manipulation of the bowel, the anæsthesia had been perfect. The greatest difficulty encountered has been the fear of the patient of the primary injection. As soon as the lumbar puncture has been made and the cocaine injected, the field of operation should be prepared, and by the time this has been done anæsthesia will be sufficient for going on with the operation.

Although W. W. Hamer<sup>13</sup> had excellent results from the use of cocaine anæsthesia of cord in one case, he does not believe its use unattended with danger, and until further research has been made would advise all to be exceedingly cautious in its use, and use it only when general anæsthesia is contra-indicated, or until we are better acquainted with its action. Aseptic is of paramount importance in this method.

An editorial<sup>14</sup> thinks that, from the

stand-point of conservatism, it is well to notice that the procedure is not without certain inconveniences, and that the number of cases hitherto operated on, while comparatively large, is not sufficiently so to enable us to pronounce with certainty upon its safety. A few hundred anæsthesias are hardly enough, and we must run into the thousands before any comparison with old-established methods of anæsthesia can prove of any value. It may roughly be stated that the mortality of chloroform has varied from 1-3000 to 1-6000, while the immediate mortality of ether is considerably less. Many thousand intrarachidian anæsthesias will, therefore, be needed, ere we can pronounce as to their safety.

G. R. Fowler<sup>15</sup> says the question of the effect of cocaine injections upon the cord itself is one of great interest. Nicoletti, of Naples, has shown by experiments upon rabbits and dogs that there are no histo-pathological lesions of the nervous system following subarachnoid injections of this drug. Dr. William Browning, neurologist to the German and Brooklyn Hospitals, made careful examination of 11 cases at periods of time varying from an hour to a week following the analgesia. The results were negative, and as far as these examinations go, as well as Nicoletti's experiments, no interference with the cord itself is to be feared.

The method cannot, as far as personal experience goes, be applied to abdominal-section cases involving acute inflammatory intraperitoneal lesion of the abdomen and pelvis.

G. G. Hopkins<sup>16</sup> concludes that it is very important that every patient whose

<sup>13</sup> Indiana Med. Jour., Nov., 1900.

<sup>14</sup> Inter. Jour. of Surgery, Oct., 1900.

<sup>15</sup> Phila. Med. Jour., Nov. 3, 1900.

<sup>16</sup> *Ibid.*



spine has been injected with cocaine should be kept under observation for a year or more in order that the profession may ascertain whether interference with such a cavity as the spinal canal, carrying, as it does, the cord, the integrity of which is so important to the functions of life, shall result in disease of the nerve-centres or of any special nerve-function. Neuroses are very insidious, tardy in their approach, and do not make themselves felt until some time after the exciting cause has ceased to act.

These are considerations that one should bear in mind when making use of this wonderful method of producing anaesthesia.

The use of this procedure must not be undertaken by any surgeon without the most careful sterilization of the fluid to be injected and the most scrupulous cleansing of the surface of the back all about the region where the injection is to be made. The slightest deviation from the most rigid antiseptic precautions, when invading such an important vital centre as the spinal cord, is criminal.

## NEURASTHENIA.

Symptoms.—D. J. McCarthy<sup>1</sup> states that gastric neurasthenia is neurasthenia in which the patient draws on the gastro-intestinal tract for the great majority of his elements of worry. The nervous excitement, which is one of the earliest manifestations, tempts the overworked and worried business or professional man to carry his correspondence and his work to the table with him, which he digests in place of his food. The food is improperly masticated, and gulped down to a stomach whose blood-supply is already engaged in the active mental processes of the brain. The muscles are usually

labby and soft on account of neglected exercise, and the all-important muscle-metabolism becomes deranged, and an excess of work thrown back on the liver soon leads to disturbances of liver function. This is early manifested in these cases by the sallow skin, and marked and persistent constipation. The failure of liver secretion and the atonic condition of the muscle of the stomach and intestinal tract lead to a sluggish movement of the intestinal contents and a poor absorption of the deleterious elements of the fecal matter. This auto-intoxication, acting on an already exhausted and overworked nervous system, leads to the complete physical and mental wreck we see in the terminal neurasthenic. All his ill health is blamed on the gastro-intestinal tract, derangement of which was first to appear. The constant retrospection and nursing of symptoms magnifies each abnormal sensation into a fatal disease; the slightest discomfort becomes an unbearable distress, the slightest pain an intense gastralgia, the least distension leading to tachycardia, bradycardia, and to "unbearable heart disease." Any one of these may lead to a nervous chill, in which there is a fear of something about to happen, associated with a shaking of the entire body, and often terminated by a fit of belching or vomiting which may or may not relieve the patient. These attacks, at first associated with the ingestion of food, may occur when the stomach is empty. In advanced cases pneumonia may occur. Dilatation is hardly ever met with.

Treatment.—H. C. Loveland<sup>2</sup> finds in many cases of both neurasthenia and hysteria a *physioma* underlain by disease which may be corrected. One should

<sup>1</sup>—*Lab. Med. Mag.*, Sept., 1900.

<sup>2</sup>—*Medicine*, Oct., 1900.

look for evidences of lithæmia, uterine disease, syphilis, cystitis, catarrhal disease in any part, dyspepsia, and constipation; in fact, any disease affecting the nutrition, or any irritation which may be responsible in a reflex way for nervousness, and so far as possible to correct it. The exercises of water should be enjoined, and the diet should be so ordered as to avoid habitually excessive stimulating food, and all stimulative drinks, including tea and coffee, should be proscribed.

If possible, the patient should be got out over ground, if not, into a garden or house in the same town, where everything is controlled by the physician. Then the doors and windows are to be opened, and fresh air let in. All friends who will not be cheerful are to be excluded and, above all, nothing pertaining to disease and suffering must be mentioned in the conversation. The patient should be out-of-door every day, with him, or at some amusement if able (as to notice the subjective sensations of the patient are not the best guide); otherwise in a wheel-chair or hammock. One should beware equally of the wheel-chair and hammock habit, for these patients easily become dependent on people.

In hydrotherapeutics and calisthenics the physician has powerful agents in the way of equalizers of the circulation, aids to nutrition, and nerve-tonics. A quick, cool sponge-bath on rising in the morning, ending dry quickly, and followed by calisthenic exercise, will often yield most satisfactory, and sometimes remarkable results. Both the temperature and time of the sponge bath, and the variety and number of calisthenic movements, should be prescribed by the physician. The bath should not be too cool at first if the patient has only been used to hot or warm water; it can gradually be reduced, a de-

gree each day, until the patient will react and feel good after the use of water between 100° and 80°. The bathing should be stopped, even though the patient insists that it is comfortable, except for calisthenics, which will not be oftener than once a week. In exercises, it is personal custom to prescribe flexion and extension of the arms and legs while standing, swinging forward and backward, circular airways, first one side and then the other, sitting (squatting) down and coming up, and finally respiratory movements, and so forth, usually starting the morning with three to five each, increasing one each every third day, until fifteen or more of each are taken. It will frequently be necessary to illustrate the movements, or have persons who have been instructed, supervise them for a time. When a patient is unable to stand for the exercises it may be necessary at first to outline a course of exercise that may be taken at bed. A hot foot-bath, of 110° for 20 to 30 minutes at bed-time, will in many cases induce sleep. In others a massage may be ordered where obtainable, or a hot and cold application to the spine as follows: The patient disrobes and sits on the edge of the bath-tub, there having been first provided a pail or basin of water at 105° to 110°, and another at 60° to 75°, a large sponge, and a small dipper. Then the sponge is dipped in the water and squeezed out on the edge of the tub, this being repeated three times. This is to be followed by pouring two or three dipperfuls of the cold water over the same territory, and afterward rubbing dry quickly, then going to bed.

Other hydrotherapeutic treatments might be employed with great advantage, especially the spinal douche when used at proper temperature, and pressure, as also could electricity in some of its forms.

the faradic being most useful to the general practitioner, on account of its portability.

The mental attitude of the patient is to be corrected; in other words, suggestive therapeutics is a most important part of the treatment. It will increase the efficacy of any remedy. The patient should be set to expecting such and such results, and the results are more likely to follow than if such a state of expectancy is not induced. It must be borne in mind, however, that many of these patients, no matter how weak mentally they seem to be, have most retentive memories, and are expert at argument; hence the necessity of weighing everything one tells them, and gauging correctly its probability of fulfillment, for if the doctor's prophecies fail and he cannot explain the failure not only to his satisfaction, but to the satisfaction of his patient, confidence is lost, and with it the physician's influence.

Nerve-tonics are good in their place, but many of them are overrated. Strychnine comes first as a nerve- tonic, but in these cases it should not be used in doses that will be felt by the patient. In very small doses, however, either alone or combined with other tonics or remedies, it is valuable. Valerian, or pil. camphor, hyoscyamus, and valerian, makes a good and at the same time harmless sedative. Bromides have their place, as have valerianate of ammonia and aromatic spirit of ammonia. Laxatives may be needed, in which case phosphate of soda is one of the best.

For the past three years it has been the custom of F. D. Bishop,<sup>10</sup> in all cases of neurasthenia coming under his care, to have a quantitative analysis of the urine before beginning the treatment; and, in nearly every case, he has found the amount of certain solids markedly dimin-

ished; especially is this the case in the elimination of urea. The specific gravity is often within the normal limit. The amount of urine passed in twenty-four hours is often below the normal, while the earthy phosphates are always in excess.

Physiologists have given us as a normal standard, with a mixed diet for the twenty-four hours' elimination, about the following: Total amount of urine, 1500 to 4000 cubic centimetres. This should contain about 60 grammes of solids, of which about 35 grammes should be urea, while one has only 3<sup>1</sup>/<sub>2</sub> grammes of phosphoric acid with which to form phosphates. Now, as urea, or its antecedents, when retained in the system, becomes a systemic poison, and often produces sudden death by overpowering the centres of respiration and of the heart, and sometimes produces violent convulsions, it is not unreasonable to conclude, when a very small amount is retained each day (not enough, perhaps, to produce the overpowering influence referred to), that the nerve-centres must show the toxic influence by similar symptoms, such as is found in neurasthenia and other functional nervous diseases.

An interesting physiological fact is that muscular overexertion and seem to increase the elimination of urea on the day the exertion is taken, but on the following day the increase is marked, showing that, while muscular exertion is most valuable for its elimination, there are certain physical and chemical changes necessary before the elimination is made; therefore the object of treatment should be to aid, as much as possible, these changes.

F. D. Bishop finds that the best reg-

<sup>10</sup> *N. Y. Med. Journal*, Oct. 23, 1900.

<sup>11</sup> *Cal. Med. Jour.*, Dec., 1899.



uisite is to try and determine the cause, both predisposing and exciting.

Neurasthenic patients of the nervous temperament must avoid severe mental strain, otherwise therapeutic measures will not be of material benefit.

As regards occupation, it is well known that the patient is not trying to perform work that is too suited to him. If he is engaged in a business which is too great a taxation upon his physical or mental capacity, a change should be advised in order to subvert the overamount of responsibility.

Many neurasthenic patients suffer at the hands of not a few physicians endeavoring to follow out their respective routine of exercises. There are no special routine of exercises that can be prescribed for neurasthenic sufferers. Acute attacks demand absolute rest. The robust, who are generally troubled with backache, may be better treated by outgassing and pleasurable exercise than by rest. Feeble patients, if not instructed, may exhaust themselves in conscientious efforts to improve their health by exercise. Whatever kind of exercise may be advised, it must be taken in moderation.

In treating cases of neurasthenia F. B. Bishop<sup>21</sup> begins by passing a very gentle galvanic current through the superior cervical ganglia, by placing a large pad over the solar plexus, or over the pit of the stomach, and by a bifurcated cord, two small electrodes, one under each ear. This current, which should not be strong enough to produce uncomfortable dizziness, is allowed to pass for five minutes.

This treatment is followed by general galvanization and then by general faradization, as described previously by Dr. Rockwell. Personal method of applying general galvanization is to place a pad, at least twelve inches square, on the bed, table, or operating-chair, and allow the

patient to lie on this pad, which is placed so as to cover the lumbar and lower dorsal region; then, with an interrupting hand electrode, every muscle of the body is removed and gentle contractions produced. The same method is followed with the faradic current.

The liver, the stomach, and spleen are all treated in their turn as they are reached, and when this is finished the patient is placed in personal ozone cage and treated by the soothing spray for ten to fifteen minutes; during this time he inhales deeply the ozone generated in the cage. In a very short time his sleep improves, his bowels become regular, and he takes normal exercise without fatigue; an analysis of the urine will show an increased elimination of urea and diminution of phosphates, and, as improvement continues, these products of catarrhism approach nearer and nearer the normal to complete recovery. After catarrhic and faradic treatment, the robust continues a sense of fatigue, he is allowed to remain in the static cage ten to fifteen minutes.

N. B. Delamater<sup>22</sup> notes that physicians are found diagnosing as neurasthenia conditions in which hyperemia, anemia, hyperaesthesia, anaesthesia, hyperalgesia, analgesia, cerebral derangement, abdominal symptoms, very active and prompt or weak and listless, fleshy and robust, or thin and anæmic, is the most prominent feature.

This being the case, it is obvious that all cases should not be treated alike, and yet, every cure in awhile, some man claims to be quite expert giving directions for the treatment of neurasthenia, without indicating any selection at all.

<sup>21</sup> *Nat. Med.* Semi-monthly, Oct. 12, 1900.

<sup>22</sup> *Brit. J. Electrotherapy*, Nov., 1900.

There is probably no class of trouble in which the current is so clearly indicated and is so capable of doing so much good, but there can be no question but that the kind of current to be used and the mode of application should at all times in all cases, of whatever nature, be carefully studied and determined by the conditions existing. Just as much care should be used in the differentiation between the different forms as between absolutely different diseases, even though classed under the one head, neurasthenia.

In the cases resulting from long-continued close mental application with almost no physical exercise, or from long-continued grief with insufficient feeding and physical exercise, best results, so far as electricity is concerned, are to be obtained by the use of the galvanic current, given in frequent and small doses and in such a way as to very mildly stimulate the cerebral circulation. This is best accomplished by applications that include the sympathetic in the current. For instance, the application that some of the older and best writers used to term central galvanization, not to exceed from 2 to 4 milliamperes, and from two to three times per day, about fifteen minutes at each application.

Where the neurasthenia is the result of sexual excess and irregularities and there is a marked mental and emotional element, and general nervous weakness, causing physical weakness, the static induced current will probably do the best service. Applications should be made daily, the length of each dependent on the judgment of the physician as formed from immediate effects.

When the result of general dissipation, with high tension, excitable and nervous, restless and uneasy, always in a hurry, strongly emotional, and all the concomitants that go with a case of this kind,

the regular static glow, crown and spinal brush, will be found most serviceable. Daily applications of from fifteen minutes to half an hour.

In the cases resulting from reflex sources of irritation the cause must first of all be removed. There may be an opportunity for varied use of the current. If the cause of the irritation be amenable to any form of electricity, one is justified in using this treatment in preference to operative or other lines. But in those cases in which the adjusting of glasses, a circumcision, or other operation is needed, the physician is not justified in temporizing with the current.

After the cause is removed, one may be able to be of material service in restoring the general tone and nutrition, by using any of the forms simply for its tonic effects.

Personal preference in these cases is for general faradic treatment, in or out of bath, depending on whether any form of bath is needed for the patient.

There are a large number of cases in which the digestive function is the prime cause. In these the faradic massage of the abdomen and the stimulation of peristalsis and general faradism is of value.

In all cases where the patient is put on the absolute rest treatment, the faradic current to all the muscles, sufficient strength to produce slight contraction, and thus give them passive exercise, is essential. In these cases, in preparing the patient to get up, the galvanic current to motor centres, for the purpose of assisting the motor nerves in regaining their power of conduction, will be of value.

There are a large number of cases that are called neurasthenia, but in reality have no claim whatever to the title. These cases should not have electrical, or any other treatment, until they are

rightly diagnosticated, and then should have that which is indicated.

One should learn to individualize cases. Electrotherapeutics have suffered more from routinism than from any other source.

According to D. J. McCarthy,<sup>23</sup> the treatment of gastric neurasthenia depends on the diagnosis. Purely local treatment applied to the gastro-intestinal tract never does any good in neurasthenia, and may do harm. The general nutrition of these patients must be elevated before the gastro-intestinal symptoms will yield to any treatment. Constipation should be relieved by regular habits, abdominal massage, and ext. cascara, 10-20 drops at night; or, what is usually better than the cascara by itself, a mixture of equal parts of the fluid extract of cascara and glycerin. The flabby muscles should be hardened by judicious massage and graduated exercise. The hours of sleep should be so regulated that the patient go to bed at a definite time at night and arise at a definite time in the morning, and a nap of two hours in the middle of the day should be insisted on. He should be in bed at least twelve hours of the twenty-four. A cold bath at night acts very well in most cases, and alternate hot and cold douches over the stomach give, usually, pleasing results. A milk-diet will be necessary in some cases, in others merely the cutting off of oily and starchy foods. Milk should take the place of tea and coffee in the diet list. Artificial food will be found of service in some cases, but milk in proper dilution will serve in the worst cases. If the food be properly chosen, digestants will be unnecessary and should not be used when they can be avoided. If the stomach is trained to taking care of a varied diet by small additions to the skim-milk diet, little artificial help will be needed.

In some cases the following sedative tonic will be found of value:—

R. Sali bromid., 5 to 15 grains.

Tr. nux. vom., 10 drops.

Tr. cinchona co., 1 drachm.

Three or four times daily.

Long-standing cases, with insomnia and great decrease in body-weight, demand the rest treatment of Dr. Weir Mitchell; in many of the milder cases results are more rapidly obtained by this treatment.

### SYPHILIS.

**Diagnosis.**—G. A. Pudur<sup>24</sup> says the accident of unwarranted diagnosis may happen, and, furthermore, that every lesion of the penis, even if followed by a suspicious rash, is not necessarily syphilis. Syphilis is perhaps not so fatal a disease as cancer, for example; but, when all the possibilities are taken into consideration, it is fully as grave. The physician should exercise more care in the diagnosis of a disease that may change the whole tenor of a man's life. Such diagnosis must not be made lightly. The physician should not be satisfied with the diagnosis "probably syphilis." He should be able to say positively that a given lesion is or is not syphilis, or should call in the aid of a consultant.

On the other hand, because the patient gives no history of a genital lesion it is no reason that he has not syphilis, for "syphilis is the least venereal of all the venereal diseases." Because the patient is above reproach morally does not prove that he is not syphilitic. With the exception of tuberculosis, it is doubtful if any chronic disease is so widespread as syphilis. Next to gonorrhoea, it is the most common of all venereal diseases. Rayer

<sup>23</sup> Inter. Med. Mag., Sept., 1900.

<sup>24</sup> Jour. of Med. and Science, Oct., 1900.



has said: "When in any case I hesitate on the diagnosis of a lesion I think of syphilis, and I have never seen cause to regret it." Ricord said once to his pupils: "Dame Syphilis is a great busybody, who is forever sticking her nose into everybody's business, and when you do not see your way clear in diagnosis find out if she has not been meddling."

B. F. Gillmor<sup>25</sup> says in syphilis the erythrocyte is abnormally sensitive to the influence of mercury, and an anæmia is much more readily induced by its administration than in health.

This reaction is of diagnostic value, but it may be applied to the recognition of early syphilis only, for the reaction cannot be obtained, to a degree sufficient for diagnostic purposes, after the advent of the secondary eruption. The reaction consists principally in a reduction of the hæmoglobin, though there is also an accompanying, but slight, reduction in the number of red cells.

In applying the test one must first try the hæmoglobin of the patient; a thorough inunction or a good-sized subcutaneous injection of mercury is then administered and a reduction of from 10 to 20 per cent. in the hæmoglobin is sought for within twenty-four hours. In syphilis alone is such a reduction found.

All that is required for this test is a small quantity of chloroform and benzin, an hydrometer-jar, and an hydrometer of sufficient accuracy. The chloroform and benzin are mixed in the jar in such proportions as to make a mixture of approximately the specific gravity of blood. The specific gravity of this mixture may be changed at will by adding more or less of either of its compounds. The jar is then washed clean with water, and soap, if necessary, and dried. A small drop of blood is secured by puncture and conveyed to the mixture in the jar. The

mixture is then changed by the addition of either chloroform or benzin until the drop is suspended in the middle of the column in the jar. The specific gravity of this mixture then corresponds with that of the small blood-drop suspended in it. The hæmoglobin percentage may be at once ascertained by reference to the tables of Hammerslag:—

Specific Gravity	Percentage
1033 to 1035 . . . . .	25 to 30 per cent.
1035 to 1038 . . . . .	30 to 35 per cent.
1038 to 1040 . . . . .	35 to 40 per cent.
1040 to 1045 . . . . .	40 to 45 per cent.
1045 to 1048 . . . . .	45 to 50 per cent.
1048 to 1050 . . . . .	50 to 55 per cent.
1050 to 1053 . . . . .	55 to 60 per cent.
1053 to 1055 . . . . .	60 to 70 per cent.
1055 to 1057 . . . . .	75 to 85 per cent.
1057 to 1060 . . . . .	85 to 95 per cent.

The mercury is then administered and the hæmoglobin estimation repeated some time within the twenty-four hours.

In the first stage of syphilis the erythrocytes are either normal in number or but slightly increased. There exists also a reaction to mercury that is parallel to the reduction of the erythrocytes to the same extent. If mercury be administered in this stage of the disease, the adult cells begin to increase in number and the young cells to correspondingly decrease.

With the advent of the secondary eruption there is generally a leucocytosis, associated with a relative increase of lymphocytes and eosinophiles. In this stage the administration of the iodide and mercury brings down the leucocyte count, increases the number of red cells and tends to reduce the leucocytes to their normal relative proportions.

These reactions are all of great value

<sup>25</sup> *Ann. Acad. Sci. and Coll. Phys., Phila.*, 1900.

in the diagnosis of the primary and secondary stages of syphilis, and these reactions of the blood to mercury and the iodides, both in the leucocyte-counts and the hæmoglobin percentages, suffice to establish a diagnosis of syphilis beyond dispute. The value of these means of diagnosis is inestimable, and they should be applied in every suspected case of early syphilis. In the diagnosis of tertiary syphilis hæmatology is still inadequate, though valuable, nevertheless.

In tertiary syphilis there is often a severe anæmia, and leucocytosis is often to be found.

R. T. Williamson<sup>26</sup> considers the diagnosis of spinal syphilis as of great importance, especially at the early stage. The following general indications are in favor of the syphilitic nature of a special disease:—

1. The history of previous syphilitic infection.
2. Signs of present or previous syphilitic disease in various parts of the body.
3. The presence of cerebral symptoms (due to associated syphilitic cerebral disease).
4. The relatively slight intensity of the cord disease as compared with the extensive area involved (Sævi).
5. The presence of Brown-Sequard's paralysis—hemiparesis—paralysis at some period of the illness. (Often this group of symptoms is incomplete and temporary.)
6. Fluctuation in the intensity of various symptoms.
7. Multiplicity of lesions.

Several French authors attach much importance to pain in the back, which is worse at night. This symptom has been personally observed in a number of cases.

Finally, the improvement under anti-syphilitic treatment may, in certain cases, be regarded as evidence in favor of the syphilitic nature of the disease.

Treatment.—According to G. A. Pudor,<sup>27</sup> there are two methods of admin-

istration of mercury in common use: the inunction treatment and by internal administration. The latter is, unfortunately, in very general use among physicians. The treatment by the use of inunctions of a mercurial ointment is very general in the European countries, but here it is not favored. If, in grave cases that the internal administration of mercury will not benefit, the inunctions are invaluable, then they are certainly as valuable in all cases. Practically the only disadvantages of this treatment are that it cannot be used for one of a married pair and that it is rather uncleanly. Its advantages may be summed up in the statement that it is the only proper and satisfactory treatment of syphilis.

The hypodermic method of treating syphilis is full of the dangers and accidents of salivation, abscess-formation, and the like, and should be left for hospital practice.

Nothing should be left for the patient to think out for himself in these cases. He should be told what to do. All the rules for the patient are to be found in any book on the subject. Besides the rules usually given may be added that none of the smoking articles belonging to a syphilitic are to be lent, and the plug of chewing tobacco is to be placed in the same category.

R. T. Williamson<sup>28</sup> regards the treatment of spinal syphilis as of the greatest importance. A thorough antisymphilitic treatment should be prescribed, and there is good evidence that mercury and iodide of potassium are of service. A common plan is to prescribe mercurial inunctions with potassium iodide internally, and this seems the better course at first. But

<sup>26</sup> Edinburgh Med. Jour., Oct., 1900.

<sup>27</sup> Jour. of Med. and Science, Oct., 1900.

<sup>28</sup> Edinburgh Med. Jour., Oct., 1900.

Tschiriew has recently shown that, when the two drugs are used at the same time, the mercury is more rapidly eliminated from the system, and in his opinion it will therefore act less powerfully in neutralizing the syphilitic poison. Hence, after the two drugs have been employed together for a time, it is best to use them alternately—mercurial inunctions being employed alone, and then discontinued, and iodide given alone. If the iodide of potassium is badly borne, it may be given in milk after meals. Hutchinson thinks it is very important always to combine the iodide with ammonia.

As regards the form of mercury, inunctions or mercurial pills are to be pre-

ferred to the injection of mercury. Hutchinson prefers *hydrargyrum cum cretâ* in pills, with a little opium three times a day.

The attention to the condition of the bladder and the prevention of bed-sores are two points of the greatest importance.

For the prevention of bed-sores the use of a water-bed is of great service. If there be retention of urine, the catheter should be used, but the most strict precautions should be taken to keep it perfectly aseptic. If cystitis should appear, the bladder should be washed out with some antiseptic lotion (containing boric acid or sodium salicylate), and atropin may be given internally.

## Cyclopædia of Current Literature.

### ADENOIDS AND EAR DISEASE.

Conclusions regarding the effects of adenoids on the ear may be summarized as follows:—

1. Ear diseases almost invariably accompany adenoid growths.

2. The first symptom of the presence of adenoids is frequently pain in, a discharge from the ear, or impairment of hearing.

3. The tendency of the ear diseases, complicating adenoids, to become chronic indicates a continuing etiological factor in their production. The subsequent improvement in the ear symptoms often taking place between the age of puberty and adult life follows the increase in size of the pharyngeal cavity and the partial or complete atrophy of the pharyngeal lymphoid tissue. The tendency to suffer from ear diseases still remains.

4. A symptom of impaired hearing due to adenoids is frequently a defi-

ciency in mental development. Mental deficiency is often directly traceable to adenoids.

5. Mastoiditis appears among the complications of middle-ear suppuration with considerable frequency, those in turn being traceable to adenoids. It is probable that cerebral abscess and other complications of mastoiditis may have a similar starting-point. W. C. Braishin (*Brooklyn Med. Jour.*, July, 1900).

### ANGINA PECTORIS.

Treatment. — Setting aside prophylaxis, the treatment may be considered under two heads, viz: (1) the therapy of the attack itself, and (2) the treatment of the heart in the intervals between attacks. The actual paroxysms are most efficaciously relieved by the nitrites. Nitroglycerin is, in most cases, superior to the nitrate of amyl. The liquid form is preferred to the tablets, but inhala-



tions of the nitrite of amyl prove successful in some cases in which nitroglycerin fails to relieve. The paroxysm of pain may also be relieved by the application of external measures, such as friction with spirit of wine (personal preference is for hot spirit of wine with an addition of salt), mustard spirit, or the application of mustard-leaves, etc. But most efficacious is the application of heat, and for that purpose may be used a special India-rubber bag provided with a thermometer in such a manner that the temperature of the water may be measured and regulated at any moment. Moving the bag at a temperature of from 140° to 170° F., with light touches over the whole chest, effects, in a good number of cases, either marked relief or the absolute suppression of the pains.

In a number of cases, however, the above-mentioned remedies will not give relief, and recourse must be had to narcotics. Before all others stands morphine.

In the intervals of the attacks, and often in the course of the attack's, measures must be taken to stimulate the heart and so strengthen it. As stimulants are especially commended ether or camphor and the salts of caffeine.

Physio-therapy proves its value in a most satisfactory way, and the tonic effect of the Schott's electric isolated groove-mass treatment becomes most evident. The *de la Schott* (Lancet, Sept. 8, 1900).

## APPENDICULAR FISTULA.

**Treatment.**—The treatment of appendicular fistula of the external variety varies with the individual case. It is well, however, to permit Nature to attempt a cure. The surgeon's attention should be directed to maintaining thorough cleanliness and to regulating the diet. Frequently a fistulous tract will

## ARRHYTHMIA, HEART-LESIONS IN.

heal spontaneously if the diet be solid food and the bowel contents be kept rather hard. It is not wise to use a syringe, as it irritates the tract. If the fistula persists over the lapse of a reasonable time, operation offers the only hope of cure.

The operative treatment of the simple fistula should consist in exploring the tract to ascertain whether an infected substance is the cause. If it is, this should be removed and the tract curetted and packed with gauze. This usually suffices to insure a cure. When the fistula or sinus communicates with an unhealed abscess cavity, the mouth of the fistula should be enlarged sufficiently to permit of thorough cleansing and packing. When possible without opening the peritoneal cavity, the mouth of the fistula should be enlarged to a degree to equal the transverse diameter of the abscess-cavity at its widest part. This should be followed by thorough cleanliness, packing, etc.

The treatment of fecal fistula necessitates opening the peritoneal cavity, removing the appendix—or its remaining portion, as the case may be—and thoroughly sweeping up all peritoneal adhesions. When the fistula is in communication with one or more openings in the intestine, closing, preferably by suture, is to be recommended, but resection, colostomy, etc., is frequently required. J. B. Deaver, *Trans. Amer. Med. Assoc.*, July 11, 1900.

## ARRHYTHMIA, HEART-LESIONS IN.

There is an irregularity and palpitation of the heart which is not due to any cardiac lesion. It may last for years without the occurrence of a single other symptom and without the fear of an untoward event. This is usually either a reflex gastro-intestinal disease due to the fact that

the vains is distributed to the stomach and intestines as well as the liver, and as a result irritation of one branch may be reflected to the terminal filaments of another branch; or it may be due to mechanical interference with the liver's action by a distended stomach. When the cardiac arrhythmia comes on suddenly without warning and then grows progressively worse, it is due to cardiac sclerosis. This is usually the result of systemic arterial atherosclerosis, invading also the coronary arteries and affecting the heart-muscle itself. This is especially the pal-pitation of the elderly. It may become painful, give rise to angina pectoris, and end fatally. *Hinchard (Med. News, Sept. 1, 1900).*

#### BULLOUS ENLARGEMENT OF THE MIDDLE TURBINATED BONE.

The most prominent symptom of bullous enlargement of middle turbinated bone is headache, sometimes accompanied by a sense of pressure in the nose. Obstruction to nasal respiration, which generally exists, comes on so gradually when this condition is uncomplicated by polyp that it is not spoken of so often as the headache. The pain is generally of a neuralgic character, and may take the form of a hemicrania, or it may be limited to one or more of the divisions of the fifth pair of cranial nerves. The sense of pressure in the nose may exist without the secondary neuralgic symptoms. The sense of smell may or may not be affected. The nose, as a rule, shows no deformity externally. It may, however, be broadened on the side on which is the bullous turbinate. Discharge occurs only when there is inflammation of the cell cavity or of sinus in one of the adjacent sinuses. Vomiting occurred in one case with the presence of pain, and

in another there was loss of consciousness for two days.

When a rounded swelling situated in the region of the middle turbinate, the testing with a probe will at once reveal a polyp or hypertrophy of the mucous membrane. The comparatively normal appearance of the mucous membrane would probably rule out any new growth, while the fragility of the base would exclude carcinoma. An identical condition is detailed as to simulate this condition must be extremely rare. In such a case there would probably be a middle turbinate also present. *J. Parsons Clark (N. Y. Med. Jour., Oct. 30, 1900).*

#### CIRCUMCISION. ADVANTAGES OF.

The most obvious advantage of circumcision is cleanliness. This is important in childhood. In adults the habit of withdrawing the skin and washing the glans has usually been learned, though it is not practiced sufficiently. In children it is not, as a rule, attempted; most boys would regard the attempt as rudement, and in many paraphimosis would result. Moreover, the practice would be injurious to morale; yet the accumulation of smegma and its decomposition is a source of annoyance and irritation to many boys. Further, any irritation of the glans penis is liable to produce reflex excitement of a character to be avoided. In middle life in many the possession of a prepuce is a source of pain or less habitual association, masturbation, balanitis, and herpes are common. As old are comes on the danger of cancer to those who suffer from phimosis is considerable. Similarly, circumcision tends to prevent syphilis. While gonorrhea is quite common among Jews or among Christians, syphilis is much less so. This shows that it is not an necessity that the circumcision of non-Jews is irradical.

depends. The only possible explanation is the absence of the prepuce.

No measure which has ever been proposed for the prevention of syphilis is as efficient as circumcision. Finally, circumcision probably tends to increase the power of sexual control. Jonathan Hutchinson (London Letter, Med. News, Nov. 3, 1900).

### COPPER POISONING AMONG ARTISANS.

**Treatment.**—The treatment of chronic copper poisoning among artisans is, first of all, prophylactic. Some factories recognize the danger from copper dust, and attempt to protect the men by systems of ventilating fans. Here and there a workman will protect himself by wearing a wet sponge or cloth over the nose and mouth. Both of these methods are valuable and should be encouraged. But even men who clearly see the need of taking precaution will after a time tire of it. In extreme cases of poisoning it is necessary to advise giving up the occupation altogether. Next to this a vacation of from two to four weeks is of the greatest benefit.

Iodide of potassium is useless. There is to-day no specific for copper poisoning. Strychnine in large doses is of value against several symptoms. It is certainly indicated. Phosphoric acid is strongly advocated by some writers, who claim excellent results. The chief reliance must be prophylaxis and change of occupation. In some of the manufacturing districts of Germany a law is in force that a man cannot work longer than three months at a time at glazing (lead poisoning). In practice this works admirably, because the men are taught to alternate with each other at their work. It would be well if this law received a wider application.

Henry A. Kurth (Med. Record, Nov. 10, 1900).

### DIACETIC ACID IN THE URINE.

Diaceturia is always pathological, and may usually be regarded as a serious symptom. It is of least serious significance when occurring, as is not uncommon, in acute febrile conditions in children. In these cases recovery usually follows. In adults it is a more serious symptom. Purdy states that in diabetes mellitus the occurrence of diaceturia may be looked upon as a very probable prelude to coma, which usually terminates quickly in death. Diaceturia is sometimes accompanied by such symptoms as vomiting, dyspnoea, and restlessness, which may shortly end in death, without other discoverable lesion.

Detection may be accomplished as follows: First, to a recently-voided sample of urine is added a few drops of ferric-chloride solution. If the phosphates are precipitated, they are to be filtered off, and to the filtrate is added a few more drops of the ferric-chloride solution. If a dark-red color is produced, diacetic acid is probably present. Second, the above color disappears on boiling or is not produced if the urine be previously boiled. Third, the urine should be acidified with sulphuric acid and shaken with ether; the removed ether is then shaken with very dilute ferric chloride, and the water color becomes cherry-red. C. K. Johnson (Phila. Med. Jour., Oct. 27, 1900).

### DIET IN PREGNANCY.

For the heartburn during pregnancy a limitation of the diet is the best remedy. Milk should be taken in considerable quantities, and, if it causes any gastric discomfort, it may be mixed with Vichy or some other carbonated water. As a rule, meat should not be taken more than



once a day. Coffee and tea check excretion, and their use in any quantities during pregnancy should be discouraged. On the other hand, there is danger in limiting the diet too much, for the woman's strength must be thoroughly preserved. Plenty of ripe fresh fruit should be taken, and if this cannot be obtained stewed fruit, or preserves not too sweet, or canned fruit. At least one quart of water should be taken a day internally, and externally a cool sponge-bath in the morning and a warm bath at night. For nervous restlessness and insomnia there is nothing more soothing. The pregnant woman should be a great deal in the open air and the house should be well aired. E. P. Davis (Med. News, Oct. 20, 1900).

### EAR-VERTIGO, CHRONIC.

**Treatment.**—The cause of chronic ear-vertigo being a mechanical one, consisting chiefly in impaction of the stapes in the oval window, removal of this retractive force and liberation of the stapes will cure the disease.

For the operation the patient is etherized (local anæsthesia by cocaine being both inefficient and toxic, according to personal experience) and the external auditory canal and the membrana sterilized by a solution of mercuric bichloride (1 to 5000) or one of formalin (1 to 1000). Then the auditory canal and membrana tympani are illuminated by means of an electric light held on the forehead and run by a small portable storage-battery, made for the purpose of clinical illumination.

Where the membrana is intact, as it is in a case of chronic ear-vertigo due to chronic catarrhal otitis media, the initial incision is made with a delicate knife, beginning close behind the short process of the malleus and following closely the

periphery backward and downward until reaching a point below the line drawn horizontally through the umbil of the membrana. This cut is followed by little or no bleeding, as a rule. The flap thus made should be pushed inward toward the promontory by means of a probe armed with a small dose of sterilized cotton. If there is no bleeding the incus-stapes joint is seen as soon as the flap of the membrana is pushed aside. If there is bleeding, it must be mopped away with sterilized maps on a cotton-holder.

The incus being now in plain sight, it should be gently disarticulated from the stapes by drawing the former outward and downward by means of an incus hook-knife passed behind its long limb. When this is done the long limb of the incus should be grasped by special forceps and drawn very cautiously downward and outward into the auditory canal and then removed entirely from the ear. When this is accomplished the operation is finished. The meatus should be stopped with sterilized cotton and the ear let alone for twenty-four or even forty-eight hours, unless the cotton in the meatus gets moist with blood or serum. If this occur, the cotton should be removed and dry cotton inserted. There is to be no after-treatment in such cases.

The mode of operation in the acute case is different from that in the chronic catarrhal case with intact drum-membrane. In the former the membrana is already perforated and the ossicles, if still present, plainly visible to most instances. The incus should be detached and removed first, and close the remnant of the diseased membrana and malleus should be completely incised. Hemorrhage in such cases is always relatively great, and delays the operation, as the field of operation requires constant and complete swabbing before the surgeon can

proceed. After the operation the ear requires syringing with a bichloride solution (1 to 5000) and the ear should not be stopped with cotton, but allowed to discharge. The subsequent treatment must be that indicated in a case of chronic purulent otitis media. C. H. Burnett (*Phila. Med. Jour.*, Sept. 22, 1900).

### ECLAMPSIA.

**Treatment.**—A pregnant woman should be constantly under the observation of her attending physician, especially after the sixth month. The urine should be examined frequently for albumin. If it is found, she should be instructed to report at once the appearance of any of the preliminary symptoms of eclampsia, such as violent or continuous headache; any disturbance of vision, especially "flashes of light"; dizziness, epigastric pain, nausea and vomiting, hurried mental irritability, or muscular tremors. If any or all of these phenomena make their appearance, whether the urine contains albumin or not, preventive treatment should be begun at once. The patient should live a quiet life; taking moderate amount of exercise, but never enough to cause fatigue. All excitement should be avoided. The diet should consist of liquids, of which milk should form the principal part. Albuminous foods should be largely restricted. Large quantities of water should be drunk. The bowels should be kept open by the administration of a mild laxative. One large bowel movement each day is sufficient. The skin should be kept active by a daily warm bath, after which the patient should be wrapped in a blanket and put to bed, where she should remain for an hour or two. If the pulse is hard and tense, it may be softened by the administration of nitroglycerin.

While these measures are of undoubted value, they are secondary in importance to the use of normal salt solution, which, as a prophylactic agent, should be given as high enemata in quantities varying from 4 to 8 pints once or twice in every twenty-four hours. The quantity given should be just as much as the patient can retain.

If, in spite of these prophylactic measures, the symptoms grow progressively more severe and convulsions occur, or if the patient is having convulsions when first seen, more active measures must be taken. The convulsions should be controlled with inhalations of chloroform. One of the superficial veins at the elbow should be exposed and opened. The dark toxin-laden blood must be allowed to flow from the distal end of the divided vein into normal salt solution at the temperature of about 100° F. is injected into the proximal end. The amount of blood withdrawn will vary with each individual, as will also the amount of normal salt solution injected. Ordinarily from 12 to 24 ounces of blood should be withdrawn and from two to three times that amount of salt solution injected.

All patients except those who are extremely anæmic should be bled. In the very anæmic it is better to introduce the normal salt solution without bleeding.

Salt solution administered by enteroclysis is entirely too slow to be depended on after the convulsions have begun. Intravenous injection is preferable to hypodermoclysis.

The uterus should be emptied immediately. If the cervix is not fully dilated or nearly so, it must be manually dilated if possible. If this is impossible on account of rigidity, recourse must be had to incisions as advised by Dührssen. It is better to give the intravenous infusion of salt solution first and allow it to be

doing its work while the uterus is being emptied.

After these measures have been taken the colon should be thoroughly irrigated. If the convulsions recur and are mild, they should be controlled with chloral given in an enema. Should they again become severe another infusion of normal salt solution is to be given. During convalescence the patient should be confined to bed and the bowels and other excretory organs kept active. The diet should be restricted to liquids for a week and then gradually increased. A high saline enema should be given twice daily. All excitement, worry, and depressing influences are to be avoided. Callers should not be allowed.

Pilocarpine is dangerous because of the marked depression on the heart, and its use is never justified in this disease. Morphine should never be used. J. B. Killebrew (Med. News, Nov. 3, 1900).

### EPITHELIOMA OF THE LIP.

A number of primary changes may precede the development of cancer of the lip. In a number of cases personally seen the first change noted was an hyperkeratosis, the thickened layer of epithelium being firmly attached to the underlying cells, and gradually extending deeper in the form of horny plugs, which could only be detached with great difficulty. In other cases the first change may be a superficial erosion or fissure, which later becomes the seat of ulceration with or without papillary outgrowth. The course of the ulcer takes on the characteristic induration, and the affection soon presents a clinical picture which cannot well be confounded with the initial lesion of syphilis when one recalls the early period in which the lymphatic tissues are affected in the latter disease.

Gummata of the lip have been occu-

luded for cancer, but these late manifestations of syphilis are usually multiple, rapidly abortive or undergo atrophy, and lack the hard base which is always present in cancer.

Chancres of the lip are usually protuberant, with an eroded or inverted surface, and lack clean-cut ulceration. J. A. Fordyce (N. Y. Med. Jour., June 23, 1900).

### ETHER AND BRONCHIAL DISEASE.

Personal clinical studies justify the belief that in properly selected cases ether inhalation is positively curative of bronchitis. To avoid unpleasant complications and to secure the desired results, the following points are essential: 1. Proper preparation of the patient. 2. Preparation of the operating-room with a temperature of 98° to 100° F. 3. Pure ether. 4. A proper inhaler. 5. The proper methods of administration. 6. Due caution against exposure in removing the patient from the operating-room to her own room. The temperature of her own room should not be below 80° to 90° F. for several hours after the operation. 7. Proper care of the patient during convalescence. She should be permitted to drink large quantities of water and should keep the bowels freely open. T. A. Reamy (Med. News, Nov. 10, 1900).

### EXTRA-UTERINE PREGNANCY.

**Diagnosis.** In a typical case of extra-uterine pregnancy the patient is usually a woman who has had one or more children, but some time, five or six years, has elapsed since the birth of the last. She presents herself with, usually, a history of having missed one or two menstrual periods, and then having had her menses return as an irregular bleeding of such a



character as to lead her to suppose she is aborting. Suddenly she is attacked with a violent, knife-like pain in the groin, so severe as to make the sweat stand on her forehead, or even cause her to faint, the pain lasting several hours or more. This pain may have been excited by some trifling exertion or jolt, such as a sudden step down from one step to another going downstairs, or may have occurred without any such cause. If this pain is not caused by the sac rupturing entirely, but simply by the parting of some of the muscular fibres, she will recover from the attack only to undergo another and more severe one a day or so later. The attacks then become increasingly severe, and the interval decreases, until there is rupture of the sac, with free bleeding, intra-abdominally, with all the signs of internal hæmorrhage—pallor, rapid running pulse, distended and sensitive abdomen, air-hunger, etc. The sac may rupture with the first attack of pain, in which case one has none of the succeeding attacks, but the symptoms of hæmorrhage supervene at once. The history just given is a typical one, but is not the one always elicited. The woman may not have had any cessation of menstruation at all, and rupture taking place may often be the first intimation she has of any abnormal process. This is a point well worth bearing in mind when called to see a case of "cramps" in a woman.

Vaginal examination will usually show the ordinary bluish discoloration of the mucous membrane, a softened condition of the cervix; the uterus enlarged, but not to the extent one would expect in an intra-uterine gestation at the period at which the woman believes herself to be. To one side or the other of the uterus is felt an exquisitely sensitive mass, in which can sometimes be detected fluctuation. This is not often elicited, on ac-

count of the pain caused. The distended tube is not often detected earlier than the sixth week. At that time it drops, of its own weight, into Douglas's pouch, and becomes adherent. One can also detect pulsating vessels in the vaginal vault on the side affected, this pulsation being absent on the other side. J. C. Hirst (*International Medical Magazine*, August, 1900).

#### **INTRANASAL OPERATIONS, PRELIMINARY TREATMENT FOR.**

The local treatment of the nasal and naso-pharyngeal mucous membrane should begin with a thorough cleansing of the nasal cavities by the patient twice daily with a bland antiseptic solution of the proper density and temperature. It is not sufficient to tell the patient to sniff up "a little salt and water" for a nasal wash, without giving him the exact proportions of the salt to the water and the proper temperature (an even teaspoonful of table-salt to one measured pint of water at blood-heat).

Atomizers, syringes, nasal douches in their various forms, and even the sniffing from the hollow of the hand are all methods inadequate to the purpose in the hands of the patient, if they are not injurious, as is frequently the case with the nasal douches.

What may properly be called the natural method will be found to be at once easily taught and easily learned by the patient, and to be efficient without being harmful. It consists in placing two ounces of the blood-warm solution in a small tumbler or cup, placing the end of the nose within the rim of the tilted vessel until the liquid enters the nostrils, then closing the mouth, and by a moderate inspiratory effort drawing the solution into the nose and naso-pharynx, thus bringing it in contact with all parts

of the nasal mucous membrane. The vessel should then be quickly removed from the nose and the liquid within the nasal cavities be blown out through both nostrils at once, and the process repeated until the liquid in the vessel is exhausted. If this cleansing process is faithfully carried out by the patient morning and evening, considerable advance toward the removal of congestion or inflammation will be observed. In the paroxysm of hay fever or acute coryza the greatest possible relief is experienced by the patient in a very short time, provided that the solution is of the proper density and is unirritating.

This cleansing process should be continued by the patient, while local applications of mild astringents and alteratives to the mucous membrane of the anterior and posterior nasal cavities are made by the surgeon at intervals of a day or two. The iodine solution in glycerin (iod. met., 8 grains; glycerin,  $\frac{1}{2}$  ounce; potass. iodide, 24 grains) has proved more universally useful than any other local remedy in personal experience. It is best applied with a pledget of cotton on the end of a delicate armed applicator, which should be carried through the nostrils along the lower meatus into the nasopharynx on both sides if it is possible to do so.

In order to retain the iodine solution longer in contact with the nasal mucous membrane and prevent its being washed away, a triturate of bismuth subnitrate and gum acacia, equal parts, may be blown through the nostrils into the anterior nasal chambers. Cocaine in any shape or strength of solution should never be used in the nasal cavities except as a local anæsthetic for minor intranasal operations.

This preliminary treatment should be kept up for several weeks, the local ap-

plications being made, as above, at frequent intervals, until a comparatively healthy appearing mucous membrane shows on examination. In those cases in which a bony or cartilaginous projection occludes some of the anterior nasal chambers while the other is the seat of atrophic changes in the turbinate tissue and in the mucous membrane, the atrophic side should be treated with stimulant astringents, such as zinc-sulphate triturate diluted with sacch. lact. in varying proportions, or with nitrate of silver diluted with starch (1 grain to 30 grains), insufflation, or finally with the cotton tampons in connection with the wash and the insufflations until a reaction from the atrophic condition has taken place. Carl Seiler (Medical Record, October 27, 1900).

#### LACERATED WOUNDS. TREATMENT OF.

The wound is first cleansed with soap and water without much scrubbing. A large piece of cotton wet with bichloride is laid upon the wound for a few minutes while the report of the case is being taken, after which the wound is revisited, if lacerated. Careful examination should be made at the first dressing and the extent of the injury accurately noted. If the tendons or nerve-trunks are severed, they should be at once united. In cases requiring tendon- or nerve-suture a general anæsthetic should be given. In nearly all other cases it is unnecessary; either no anæsthesia or local anæsthesia may be used. In the revision of the wound just as little as possible of the lacerated tissue should be cut away. It is better to dress the wound with doubtful tissue remaining than to sacrifice some that might have been saved. When in doubt, no flatter should be sacrificed

without first giving it a chance to be saved.

It is personally an almost invariable rule never to suture a lacerated wound. If suture material is required, silk-worm gut should be used. Instead of suturing the wound, it is brought in apposition as nearly as possible and held there by a wet gauze bandage, the bandage being wet in a solution of corrosive sublimate, generally about 1 to 1000. After the parts have been brought together by a gauze bandage the wound is dressed by applying very profuse dressing of gauze and cotton, all wet with bichloride solution. Wet from moist is distinguished by having the former saturated and the latter wrung dry. A wet dressing should always be used for the first dressing, and if at the next dressing there are no signs of infection a moist dressing may then be used. If dermatitis is present a dry dressing should be used. Whenever the laceration is near a joint the lacerated part should be put at rest, either by a splint or by fixation to the body.

The first dressing should remain on, unless there are indications for its removal, at least two days. If there are no indications of sepsis, a new dressing is quickly applied. The wound is dressed about every second day with a moist dressing unless granulations make their appearance, when a dusting-powder may be applied. Boric-acid powder being most efficient, dry dressing and sterile gauze are used from now on until the wound is healed. In the later stages of healing, when the danger of infection is practically over, the patient is often directed to remove the bandage and bathe the wound for ten minutes in very hot water and then reapply the sterile gauze, this to be done twice a day. W. E. Lower (Bull. Cleveland Gen. Hosp., April, 1900).

## LEUCORRHOEA: ITS CAUSES AND TREATMENT.

Except in a few instances, such as specific and septic infections, leucorrhœa is almost always secondary.

Speaking broadly, the discharge can have its origin in one of three places: (1) the vagina, (2) the cervix, and (3) the endometrium of the body of the uterus.

When a patient presents herself complaining of leucorrhœa, the first thing to do is to determine the cause, if possible. Any local treatment would be worse than useless unless the source of the trouble be removed at the same time.

It has been personal custom to treat by the use of tonics for the general health, astringent douches of alum and zinc sulphate, and the occasional use of a solution of silver nitrate, 10 to 20 grains to 1 ounce. This latter is applied by inserting a cylindrical speculum, filling it full of the solution, and then slowly withdrawing the instrument, thus making sure that the solution reaches every part of the vaginal wall. This is more satisfactory than the use of a swab. This treatment, combined with douches of corrosive sublimate 1 to 4000, is the one which, in gonorrhœa, has given perfect results.

Cervical leucorrhœa, always excluding a gonorrhœal infection, is usually due to a catarrhal inflammation of the cervical endometrium, usually secondary to some other condition. The discharge here is very thick and copious. It is often accompanied by erosions of the cervix. This erosion, when not due to laceration, is produced by swelling and prolapse of the cervical endometrium. When such an endometritis exists, it usually involves the corporal endometrium as well: so that the condition may often be cured entirely, or at least form a much better foundation for satisfactory after-treat-



ment, by a thorough curettement. Non-operative treatment consists in *hot* astringent douches, painting the vaginal vault with Churchill's tincture of iodine, and the use of boroglyceride tampons three times a week, the whole combined with a general tonic treatment. Tonics are generally indicated. The only precaution taken is not to prescribe iron in cases where there is a tendency to uterine hemorrhage.

When this treatment has not the desired effect, protargol bougies may be used.

Leucorrhoea from the uterine body is nearly always associated with an endometritis. The treatment should be curettement to remove the hypertrophied masses; then tonic treatment with intra-uterine medication of one of the new silver salts in the form of bougies. John Cooke Hirst (Therap. Gaz., Oct. 15, 1900).

#### MALARIAL PARASITE, STAINING OF.

In staining malarial parasites the blood-smears are prepared by carefully cleaning the lobe of the ear, puncturing it with a sterile needle or lancet, touching a clean cover-glass to the resulting drop of blood, and placing another cover-glass over it; the two are then slid very gently and carefully apart and the smear allowed to dry. Care should be taken not to get too much blood upon the first cover-glass and to use no pressure in sliding the glasses apart. After drying, the smears are allowed to harden in equal parts of alcohol and ether for half an hour, when they are ready to stain.

Chenzinsky's method of staining is as follows: A concentrated watery methylene-blue solution, diluted one-half with water, is added to an equal amount of 2 per-cent. solution of eosin in 60 per-cent. alcohol. This solution is bottled and

kept and is improved in staining qualities by age. The specimens are stained with this solution for five minutes and then washed in water, dried, and mounted in Canada balsam. Much better specimens are obtained by staining for two hours or more. A few authorities use stained preparations almost entirely for diagnosis, but it is a cumbersome and very unreliable practice. Where it is impossible to keep a specimen of blood fresh enough to look at under the microscope, the use of stained preparations is necessary; but when it is possible to examine the blood fresh, it is always to be preferred. C. F. Craig (Med. News, Nov. 3, 1900).

#### MYOMA OF UTERUS. VAGINAL LIGATION OF UTERINE ARTERIES FOR.

In regard to the remote results of and the indication for vaginal ligation of the uterine arteries in cases of myoma of the uterus, the following conclusions are of value: 1. Vaginal ligation of the uterine arteries in their different branches from the uterus to the point of division is an operation entirely devoid of danger. It is probable to ligate in three or four stages, after the freeing of the bladder, the cervix, and the broad ligaments on each side, the ligamentum cardinale and the base of the broad ligament, with strong silk in a Deschamps needle. This operation was well supported even by women entirely exhausted and exhausted, who would assuredly succumb to radical intervention. 2. After this operation the uterus and its ovum can receive no micro-arterial blood save by the internal spermatic artery and by means of the artery of the round ligament from the terminal ramifications of the epigastric artery. 3. The nutrition of the uterus is assured after the operation. 4.

The vaginal ligature of the uterine arteries, in suitable cases, can subdue better than any other palliative method the hemorrhages of myomata, and reduce the tumors to nuclei so small that they are no longer evident in clinical examination. 5. But it is essential to choose cases suitable to the method. 6. The following data are submitted: (a) The myomata most amenable to the method were essentially interstitial myomata developed in the inferior and middle portions of the womb, rather than those situated at the fundus. Intraligamentary tumors were altogether inadmissible. (b) The nearer the subject to the menopause, the greater the chances of a radical success by the method of ligature. (c) The method was especially applicable in those cases in which the tumor did not exceed in size a woman's head. (d) If pelvic peritonitis had preceded, it was very likely that the tumors had contracted adhesions with neighboring organs, particularly with the epiploön, and that they drew therefore new arterial vessels which would render success doubtful. (e) Before the scraping of the uterine mucosa, which is always the first step in the operation, the uterus should be dilated with a tent in all cases in which there is reason to suspect a myoma beneath the mucosa, since it is better to extirpate radically the myomas situated in the uterine cavity. S. Gratchell (N. Y. Med. Jour., Aug. 25, 1900).

### OREXIN TANNATE.

Orexin tannate possesses decided power as a stomachic. It is of benefit in anorexia and gastric atony, as it seems to increase gastric secretion and probably muscular power as well.

It is when hydrochloric acid is deficient that it acts best, and when this is in excess it should not be employed. In cases

of debility and of slow convalescence, as well as in tuberculosis where increased assimilation is so desirable, its action is excellent. In children when a gastric stimulant is indicated, and the bitterness of nux vomica and its allies is an objection, it has proved of special value. One to 2 grains is generally sufficient for children, while in adults 5 grains three times daily before meals usually proves an effective dose. J. B. Moore (Bull. Cleveland Gen. Hosp., April, 1900).

### PNEUMONIA.

**Treatment.**—The armamentarium for the first stage of pneumonia—that of general malaise and congestion—is made up of counter-irritants, arterial sedatives, antipyretics, and anodynes. Cases of incipient pneumonia are sometimes nipped in the bud by the timely employment of strappings over sensitive pulmonary areas, together with the administration of aconite, scutellariol, or veratrum viride, and also by the mixed arterial sedative and anodyne formula of morphine sulphate and atropine.

In no affection is it more important than in pneumonia to treat conditions more than the disease itself.

In the second stage, that of infiltration and hepatization, arterial sedatives, antipyretics, and even the counter-irritants should be employed with the view of limiting the extent of infiltration and hepatization so far as possible. It is usually in this stage that a physician's services are first called for. It is at this stage when the progress of the case in hand has been arrested or held in abeyance that the carbonate and iodide of ammonium are especially indicated, while only sufficient of the antipyretics—as, for instance, sodium salicylate—is employed to keep the temperature well in hand. It has seldom been found advantageous to combine

opium with the prescriptions regularly employed. Opium in the form of Dover powder is best given alone when indicated. As the stage of resolution is approached, serpentaria in the form of the fluid extract, combined with ammonium carbonate and liquor ammonia acetatis, is of great advantage.

Cups, both wet and dry, applied to relieve pleuritic stitches during the early active, inflammatory process, are decidedly helpful.

In the third stage, antipyretics are discontinued, alteratives are brought forward, such as corrosive sublimate and iron, the iodide or carbonate of ammonium, administered in increased doses. Strychnine sulphate is, perhaps, employed, or, if the case has been complicated with grippe, it has been used from the beginning of the second stage. If resolution is delayed or tardy, tincture of iodine and cantharidal plasters are employed to vesicate the surface and hasten absorption.

The affected lung once restored to its normal condition, or frequently pending such termination, the official formula of the compound syrup of the hypophosphites is eminently serviceable in favoring general reconstructive metamorphosis. C. Z. Weber (Phila. Med. Jour., Sept. 29, 1900).

The application of cold water meets all the indications for which aconite, veratrum, quinine, repeated antipyretics, and morphine stimulants were formerly applied—and it accomplishes it without their depreciating effects. A child suffering from pneumonia receives much comfort from a tub-bath with good friction in water of 95°, reduced during five to eight minutes to 85° F. A few baths of this kind repeated every four to six hours, without fuss or confusion, at the bedside (not in a bath-room) calm the

respiration, reduce temperature, promote sleep, slow and strengthen the pulse, and refresh the oppressed nervous system. In the interval between the baths, if the temperature and pulse are high, one may wrap around the upper half of the trunk a compress made of three folds of old linen and wrung out of water at 65° F. This may be covered by a wider bandage of one layer of thin flannel, snugly secured over the compress. By renewing this compress every hour, the good effects of the bath are maintained and their frequent repetition is rendered unnecessary.

In the adult patient the tub-bath is not so useful. Here the wet compress, not too firmly wrung out of water at 60°, usually fulfills all therapeutic indications. Repeated every hour, or oftener, if it is hot when removed, its application causes a deep inspiration, a betterment of the pulse quality, and an increase of urine. The latter is also enhanced by drafts of 4 to 6 ounces of water at 45°, administered regularly every two hours.

The frequency of application, the temperature of the water, the extent of the saturation of the compress, the duration of the bath, the selection of the procedure—are matters for judgment in each individual case. Simon Baruch (Inter. Med. Mag., Oct., 1900).

#### PNEUMONIA, DIET IN THE ACUTE STAGE OF.

The food should be liquid, and of such a nature as to be easily absorbed and not liable to ferment, as albuminous solutions and peptonized milk. Among the former, egg-water is an available form. It is prepared by squeezing the albumen of one or two eggs through a cloth and adding half a pint of water and a pinch of salt. This, or beef-tea, may be given alternately with the milk at the rate of 3 ounces of either every two hours. If,



notwithstanding this careful feeding, flatulency occurs, peptonized milk may be replaced by koumiss or matzoon.

Alcohol is a food as well as a stimulant. As a food, it may be employed to replace, in part, or to supplement, the food already mentioned. It can be resorted to with advantage much earlier than it is usually administered.

Alcohol may be employed tentatively at any stage in pneumonia. Its action will be shown to be beneficial if twenty minutes after the dose is taken, the pulse becomes less frequent and of greater volume, and the respiration slower and deeper. The duration of the betterment is the key to the amount and the frequency of the dosage. Simple water should be allowed in any quantity that the patient desires. A. H. Smith (Inter. Med. Mag., Oct., 1900).

#### POST-PARTUM HÆMORRHAGE. PROPHYLAXIS OF.

There are two factors in the third stage of labor: (a) the separation and (b) the expulsion of the placenta with the membranes. Nature should be allowed to separate the placenta, and then, if she is not equal to the second task, the *accoucheur* can assist in helping her to expel the already-separated placenta. The great mistake is an attempt made at once by the obstetrician to express the placenta from the upper, or contractile, part of the uterus—a line of practice liable to be followed by retention of membranes, postpartum hemorrhage, and even septic poisoning—instead of waiting until certain signs indicate that Nature has separated it. The best method of managing the third stage of labor is as follows:—

As soon as the head of the child is born, the left hand of the *accoucheur* is placed on the woman's abdomen over the

fundus of the uterus, the ulnar edge of the hand looking toward the vertebral column. The child's eyes are wiped and a finger ascertains if the cord is around its neck. During the subsequent birth of the child the left hand of the *accoucheur* follows down the fundus. Immediately after the child is born the woman is turned on her back. As soon as pulsation has ceased the nurse ties the cord, one ligature being placed in the usual way near to the child's abdomen, the other close to the vulva of the mother (care being taken gently to draw down the cord so as to leave no loop in her vagina). The hand of the *accoucheur* never leaves the fundus (except in the case of a child born in white asphyxia, when the medical man must look after it and the nurse takes his place in controlling the fundus). No attempt should be made to massage or stimulate the uterus; all that is required is simply to control the uterus with the hand and to ascertain when the placenta has separated. This can easily be diagnosed by the following signs: 1. A sudden rising up of the uterus, which may have previously been largely in the pelvis. 2. A swelling detected above the pubes due to a bulging forward of the lower uterine segment. It is very much in the position of a distended bladder, and is sometimes mistaken for it. 3. Greater mobility of the uterus. 4. Expulsion of a few more inches of the cord as shown by the fact that the ligature placed at first close to the patient's vulva has now advanced from that position a few inches.

The separation of the placenta, as indicated by these signs, takes place in about from twenty to thirty minutes. When once the placenta has separated and has left the upper active and contractile portion of the uterus, then firm pressure is made by the hand of the *accoucheur* over

the fundus during the height of a pain, and the placenta is expelled out of the lower uterine segment and vagina; the nurse then takes charge of the after-birth, gradually turning it round and round to get the membranes thoroughly away. The hand of the *accoucheur* still controls the uterus, and while he is doing this the nurse floats the placenta and membranes in a basin of water so that he can see if there is any lobule of placenta left behind or if there is a piece of chorion wanting, indicating the presence of a placenta succenturiata. Supposing the examination of the placenta and membranes shows there is nothing left behind, the nurse bathes the patient's vulva with a mercurial lotion (all blood, etc., being removed), applies a pad wrung out in antiseptic lotion, and the binder is put on, but the *accoucheur* never lets go control of the uterus until this is completed.

2. The other important measure as a prevention of post-partum hæmorrhage is not to deliver in the absence of pains. An example of the abuse of this principle is such a condition as "secondary uterine inertia" where a labor comes to a stand-still. The pains cease and the woman and her friends urge the medical man to deliver her. It may be she is well on in the second stage, but her pulse is quiet and her uterus on abdominal examination is relaxed and there is no rise of temperature. Here the proper line of action should be to give a dose of opium; the woman will then fall asleep and after a time pains will come on again and she will probably deliver herself without any assistance. John W. Byers (*Lancet*, Sept. 15, 1900).

### POTASSIUM BICARBONATE IN COLDS AND INFLUENZA.

Potassium bicarbonate, given early, will, in nearly every instance, abort a

cold very effectively and almost at once. The remedy is well borne by both elderly and weak persons. Nor is it necessary for them to keep indoors as after the treatments commonly in use. Even when the case has advanced further and fever is present, this drug, with others indicated, will help greatly to re-establish the normal adjustments of the body. In those cases in which the tonsils are involved, or in which the catarrhal inflammation affects the other air-passages, or the alimentary canal, potassium bicarbonate will demonstrate its benign influence.

In influenza potassium bicarbonate is a remedy of unusual value. Thirty grains of potassium bicarbonate should be given in a cup of milk every 4 hours during the day, and no other diet for 48 hours. This will, in most instances, quickly start the patient along to health. When milk is not well borne or readily taken, the remedy may be administered with a glass of cold water, only liquid diet being allowed from 36 to 48 hours.

Nothing seems to assist the action of potassium bicarbonate so well as a cathartic, such as calomel, peplephyllum, etc. Stephen Harnsberger (*Phila. Med. Jour.*, Nov. 10, 1900).

### POTASSIUM IODIDE. METHOD OF AVOIDING UNPLEASANT PHENOMENA.

When iodide of potassium is administered in ascending doses for long periods, it is, to a certain extent, possible to prevent unpleasant phenomena by the concurrent administration of other drugs, such as arsenic and belladonna. While without these, symptoms of iodism may sometimes be prevented or the intensity diminished by varying the salt used, these results are obtained if the alimentary canal is looked after and the patient is

Instructed with regard to the use of food and alcohol. The chances of unfavorable symptoms are decreased by dilution with water or milk. If it is taken in large amounts with little fluid it is retained much longer in the body than otherwise, whereas if liquids in copious amounts are freely exhibited, elimination is facilitated, and at the same time favorable results are obtained. Lewis S. Somers (Med. News, Sept. 29, 1900).

### PROSTATIC ENLARGEMENT.

**Treatment.**—Dissections of the pathological prostate show that hypertrophy is almost never confined to the middle lobe alone, but that the whole of the prostate is involved. This involvement is glandular and fibroid in character. The older the case, the greater the predominance of the fibroid element. At times there is a venous congestion and a stasis also of the capillaries, which adds a vascular element to the size of the prostate and its adjacent tissues. Any operation which does not attack the hypertrophy of the lateral lobes is not radical and cannot effect a permanent cure. The removal or destruction of the middle lobe, in the great majority of cases, only partially, if at all, removes the cause of the obstruction, although the multiple cauterizations may so relieve the capillary stasis and œdema of this portion as to give a very decided temporary relief; and, if most of the obstruction in any special case is due to this condition, the relief may be marked and last for quite some time, provided the bladder and kidneys have little or no secondary disease, and provided sepsis does not follow.

From the above we may assume that perineal prostatectomy with drainage is an operation in competent hands—which is no more dangerous to life than an interval operation for appendicitis,

provided the cases are properly selected ones, in which degeneration of the general and special tissues of the body has not gone on to a hopeless extent, in which the bladder and kidneys are not too seriously damaged, and in which septic infection, if present, is not too profound. But, even under part or all of these adverse conditions, complete removal of the prostate with free drainage is the rational and scientific method of radical treatment, and offers the best hope and the most favorable chance for a permanent cure, with the least danger to life. J. B. Bissell (Med. Record, Nov. 10, 1900).

### PUERPERIUM, PSEUDODIPHTHERITIC VULVITIS AND VAGINITIS IN.

In the pseudodiphtheritic cases of vulvitis and vaginitis the ulcerated surfaces must be thoroughly cauterized and disinfected, and there seems to be no better agent for this purpose than pure carbolic acid. It may be applied on small swabs of wool held in forceps. It has a two-fold effect: killing microbes and stimulating the production of granulation-tissue; and, in addition, it is somewhat analgesic after the first smarting sensation is over. If there is any tendency to gangrene, it is better to cut away widely the affected parts, and then apply the pure carbolic acid. The parts afterward may be lightly stuffed with sterile iodoform gauze. The bowels must be kept acting, preferably with calomel or magnesium sulphate. If the temperature rises very high (*i.e.*, over 104°), the body may be sponged with cold water, or ice-bags may be placed in the flexures of the groin and axillæ. Stimulants will be necessary, as a rule, in these cases; brandy is the best, and may have to be given in large quantities. If there is evidence of heart-failure, it is wise to give strychnine.



nine and digitalis by the mouth or strychnine hypodermically. A few undoubted cases of true diphtheria of the vulva and vagina are recorded in which good results have been obtained by the injection of diphtheria antitoxin: so if there is any doubt about the cause, the membranous exudate must be examined bacterologically and proper treatment given. T. G. Stevens (Treatment, Aug., 1900).

### QUININE AS AN ANTIPYRETIC.

The activity of quinine, both as antimalarial and antipyretic, is augmented by combining it with aromatics, cholagogues, and moderate amounts of alcohol, and herein lies the secret of the famous "Warburg's tincture."

The antipyretic action of quinine may further be augmented by combining or administering it in conjunction with remedies (1) which relax the peripheral capillaries, as powder of ipecac and opium; and (2) remedies which exert a definite antifebrile effect through action upon the nerve-centres and vasomotor system, as acetanilid, antipyrine, etc. In combining quinine with Dover's powder it may well be administered in capsules or cachets, and the constipating effect of the opium may be overcome by small doses of resin of podophyllum or calomel. In combining quinine with acetanilid—and this combination gives a most excellent antipyretic for use in the earlier stages of general inflammatory diseases—a fluid mixture is preferable. Of this the following is a good type:—

**R** Quinine sulphate, 1 drachm.

Acetanilid (in fine powder), 4 drachm.

Aromatic elixir (or elixir alisaya), 1 fluidounce.

Chocolate syrup, to make 4 fluidounces.—M.

Dose: 1 to 2 teaspoonfuls.

Note: The syrup of chocolate should be heavy—similar to that drawn at soda-water fountains.

It has also been found that the action of small doses of quinine is augmented and sustained by combination with other cinchona alkaloids. The following combination is of particular value, 3 grains being equal in antiphlogistic and antipyretic effect to at least 7 grains of quinine sulphate:—

**R** Quinine sulphate,

Cinchonine sulphate,

Cinchonidine salicylate, of each,  
30 grains.

Mix. Divide into 20 capsules.

Dose: 1 to 3 capsules.

Note: The powder should not be made into a mass, but after the ingredients have been well mixed together they should be put directly into the capsules, and the capsules weighed as made up. J. H. Egnor (Merrill's Archives, Oct., 1900).

### RECURRENT VOMITING IN CHILDREN.

Recurrent vomiting is to be distinguished from the periodical vomiting described by Leyden. This latter affected adults, was always unattended by fever, and exhibited abdominal pain as a very prominent and often the most prominent symptom. The onset of some acute infectious disease can generally be distinguished by the development of other symptoms which are characteristic. Meningitis, particularly the tubercular form, may cause vomiting at first. But the onset is much more gradual in the latter affection, vomiting is not commonly so frequent, and there is an increasing apathy and tendency to stupor, with rigidity, and finally with vasomotor and possibly osseous symptoms, all of which are

quite distinctive. Nephritis is to be distinguished by a careful study of the urine at the onset. Acute indigestion is differentiated by the initial heavily-coated tongue and other signs of a disturbed stomach, the character of the vomited matter at the beginning, the tendency for diarrhoea to develop soon in most cases, and the relief which vomiting usually gives after a few hours or a day have elapsed. Especially characteristic of recurrent vomiting is the tendency to repeated attacks which can in no way be associated with the ingestion of unsuitable food. Intussusception or other form of intestinal obstruction causes, perhaps, the greatest difficulty in diagnosis, especially as obstinate constipation is such a prominent symptom of recurrent vomiting in many cases. Only a careful study of the case will enable a decision to be made, and then not always with certainty. Chief among the points of diagnosis in favor of recurrent vomiting are the tendency to repeated attacks and the absence of severe abdominal pain. As contrasted with intussusception, there is also the absence of bloody mucous stools and of any discoverable tumor. Generally, too, although constipation can be temporarily relieved by treatment, the vomiting persists until the attack is about to terminate.

Prognosis is generally good, although not necessarily so. Recovery nearly always takes place, even from a condition of most alarming prostration. Cases do die, however.

The attack once developed generally goes on in spite of treatment until it exhausts itself. Every element which can be even suspected as an etiological factor must be sought for and removed. Alterations in the diet should be tried, overwork and overplay guarded against, and constipation most carefully prevented.

If prodromal symptoms seem threatening, a free purgative may possibly do good. Care must constantly be taken to maintain a free action of the kidneys.

Should an attack have actually commenced, the first indication is to open the bowels freely by an injection, or, still better, by saline cathartics or calomel if the child can retain them. But after the first effort it is well to administer nothing whatever by the mouth, whether food or medicine. The use of opening enemata should be discontinued and the bowel reserved for small concentrated nutrient enemata and the administration of medicine. The best drugs to use in this way are chloral and the bromides in full doses. Morphine hypodermically has done good in some instances. It should be tried early in all bad cases. Stimulants by the rectum and strychnine and digitalis by the skin are to be used as needed. Hypodermoclysis is a treatment for severe cases which seem to offer the hope of benefit. Ice or counter-irritants to the epigastrium may be tried. As the disease advances, and especially if a lull in the vomiting occurs, it is safe again to try to obtain a free action of the bowels by the administration by the mouth of repeated doses of phosphate of soda or Rochelle salts. There is nothing to be gained at any time by a mere unloading of the bowel by enemata, as though the constipation were the cause of the vomiting. J. P. Crozer Griffith (*Amer. Jour. Med. Sci.*, Nov., 1900).

## RETRODISLOCATIONS OF THE UTERUS.

In the treatment of retrodislocations the following conclusions may be formulated:

1. There is a certain percentage of curable cases of retrodislocation by palliative means alone.

2. Plastic operations alone will not cure chronic retrodislocation.

3. Vaginal operations, except as adjuvants, are, as a rule, a failure.

4. The Alexander operation is indicated in all uncomplicated cases of retrodislocation requiring operative treatment. It is indicated in cases of retroverted, anteverted uterus without adhesions. It is indicated in cases of retrodislocation with adhesions, when normal appendages exist, the adhesions in these cases first to be separated by anterior or posterior vaginal incision.

Uterine suspension is indicated when, operation being required, adhesions are too dense in the *cul-de-sac* of Douglas to be dealt with *per vaginam*. Second, when diseased tubes or ovaries exist, and an attempt is to be made to conserve them. Third, diseased appendages existing with adhesions, necessitating sacrifice of one or both appendages. Fourth, whenever it is necessary to choose between uterine suspension and inguinal laparotomy. S. G. West (Chicago Clinic, Oct., 1900).

## STERILIZING AND PASTEURIZING MILK.

Milk obtained under unfavorable conditions and kept at a rather high temperature contains many bacteria, and, in addition, their spores and toxins. It has been shown that 99.8 per cent. of the bacteria can be destroyed by pasteurization. The older the milk is, the more difficult it is to pasteurize it. Pasteurization at 158° F. destroys the vast majority of the forms liable to produce extensive and rapid change in the quality of the milk. It is necessary, in most instances, to maintain the pasteurized milk at a low temperature in order to preserve it from further change. However, the same can be said of milk heated to 212° F. Milk exposed to 140° F. has 96 to 99 per cent.

of its bacteria destroyed. Russell has found that, when milk is heated in tubes to 140° F., tubercle bacilli are not entirely killed, because the little pellicle which forms on the surface of the milk protects the bacilli to some extent. If this pellicle is broken up, complete destruction of the tubercle bacilli is assured. Milk raised to 212° F. is markedly altered in taste, smell, and chemical composition. As long as milk can be rendered practically sterile at comparatively low temperatures, it seems useless and even deleterious to subject the milk to a higher temperature. A. D. Blackader (Med. Record, Oct. 27, 1900).

## TATTOO-MARKS, REMOVAL OF.

India ink continues to be the favorite pigment used, vermilion having lost much of its popularity. In cases where the tattooing is old and rather pale, the pigment which has been used is located very deep, and it requires rather more energetic treatment than in more recent cases. The technique of the removal of tattoo-marks is as follows: The tattooed skin is made surgically clean. It is first carefully shaved, if necessary, then thoroughly washed with soap and water. After this a thorough cleansing with alcohol is given, and finally a solution of bicarbonate, 1 in 1000, applied. The skin is anesthetized with a spray of chloroform ethyl. Then the surface which is tattooed is covered with carbol solvent. Next in order is to take a bunch of needles, previously prepared and rendered aseptic, and dip them in the carbol solvent, drying them in the tattooed part with a sharp turn. This is repeated several times over the entire tattooed skin. Much of the success obtained depends upon the proper preparation of the bunch of needles. The best method is to get some blue-iron wire, bend it, and as if



is about to harden put in a number of fine canbric needles so that they will have about half an inch free, the points being upon the same level. Milliner's needles, No. 9 or 10, will serve the purpose admirably. This curative tattooing must be thorough to insure good results, and yet the needles must not be driven so deeply as to draw any but the least quantity of blood. After this tattooing has been done the caroid solvent is poured over the area worked on and covered with two or three layers of gauze, previously soaked in the solvent. In a few days, two or three, when the latter is removed the tattoo-marks present a hazy, light appearance. Very shortly after some crusts appear, and when these fall off traces of the tattooing will be gone. If the least bit should remain the process is to be repeated. As a general rule, it is necessary to repeat the procedure to obtain the best result.

The rationale of the method is one which appears to be about as follows: Caroid acts upon dead, but not upon living, tissue. The digestive principle of

the caroid is disseminated about the encysted deposits of pigment, where it dissolves their covering and thus eliminates them. A portion is absorbed in a finely-divided state by the lymphatics; another part probably finds its way into the upper layers of the epidermis and thence to the surface. In this manner a disappearance of the pigment is obtained. A. H. Ohmann-Dumesnil. (St. Louis Med. and Surg. Jour., Oct., 1900).

### TUBERCULOSIS, DIAGNOSIS OF EARLY STAGES OF.

An afternoon temperature-rise, attaining the maximum at 5 or 6 p.m., is of great diagnostic value. Next in importance is increased pulse-frequency, associated with a lowered arterial tension. The early diagnosis must be made more from the history and symptoms than from physical signs. Sciagraphy is an aid only to those who are expert in its use. Tuberculin is a dangerous diagnostic agent, as it may change a local condition into a general infection. Charles Rea (Phila. Med. Jour., Sept. 29, 1900).

## New Books Received.

The editor begs to acknowledge, with thanks, the receipt of the following books:—

**STUDIES IN THE PSYCHOLOGY OF SEX.** The Evolution of Modesty. The Phenomena of Sexual Periodicity.—Auto-crotism. By Havelock Ellis. 6 $\frac{3}{8}$  x 8 $\frac{7}{8}$  inches. Pages xii-275. Extra Cloth, \$2.00, net. Sold only to physicians and lawyers. F. A. Davis Company, Publishers, 1914-16 Cherry Street, Philadelphia.

**MEDICO-CHIRURGICAL TRANSACTIONS.** Published by the Royal Medical and Chirurgical Society of London. Volume the Eighty-third. Longmans, Green & Co., London, 1900.

**TRANSACTIONS OF THE CONGRESS OF AMERICAN PHYSICIANS AND SURGEONS.** Fifth Triennial Session held at Washington, D. C., May 1 and 2, 1900.

**ELLENTH REPORT OF THE STATE BOARD OF HEALTH OF THE STATE OF MAINE FOR THE TWO YEARS ENDING DECEMBER 31, 1899.**

**HEART DISEASE IN CHILDHOOD AND YOUTH.** By Charles W. Chapman, M.D., M.R.C.P., with an Introduction by Sir Samuel Wiles, M.D., F.R.S. The Medical Publishing Company, Limited, London, 1900.

**TRANSACTIONS OF THE AMERICAN OPHTHALMOLOGICAL SOCIETY.** Thirty-sixth Annual Meeting, 1899.

**MEMOIRES ET BULLETINS DE LA SOCIÉTÉ DE MÉDECINE ET DE CHIRURGIE DE BORDEAUX.** Année 1899.

**LA SURDI-MUTITE ETUDE MEDICALE.** Par Etienne Saint-Hilaire. Paris: Maloine, Editeur, 1900.

## Monographs Received.

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Corneal Corpuscular Activity. By Joseph E. Willett, M.D., Pittsburgh, Pa., 1900.—  
 The Treatment of Pulmonary Tuberculosis, with An Additional Note on Climate. By C. G. Campbell, M.D., Phoenix, Ariz., 1900.—A Plea for the Asylum Nurse. By Robert Howland Chase, M.D., Philadelphia, 1900.—Neurasthenia. By J. T. Eskridge, M.D., Denver, Col., 1900.—  
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[End of the Editorial Department of the Monthly Cyclopædia for November, 1900.]



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### Cyclopædia of the Year's Literature.

#### ECZEMA.

**Etiology.**—In studying the parasitic origin of eczema James Galloway<sup>1</sup> finds that the conclusions which seem to be indicated are:—

1. Cocci producing white cultures are present in early and uncomplicated lesions of papulo-vesicular eczema; but

these cocci, though varying in minute particulars in different strains, are not sufficiently differentiated to distinguish them from the staphylococcus pyogenes albus. The micrococci described by Dr. Urna falls into this category.

<sup>1</sup> St. Louis Med. and Surg. Jour., Sept., 1900.

In later stages of eczema other organisms make their appearance; so that the coccus yielding white cultures may even be crowded out of existence. The most important of these organisms is, no doubt, the staphylococcus pyogenes aureus.

2. It appears that in the production of eczema more than one factor is at work, though the presence of such organisms as those mentioned, which are well known to have pyogenic powers, must be an important factor in every case. These organisms do not grow in such enormous numbers on injured surfaces without producing some result. From a knowledge of their effects in other situations the result must be noxious. The local infectivity and chronicity of eczema are probably mainly due to the presence of the organisms mentioned.

3. Other factors, however, are probably concerned in the production of any attack of eczema, and of these two appear to be of much importance:—

First, the predisposition of the skin, usually associated with the seborrhœic state, to the free growth of many varieties of vegetable parasites. This is probably the most effective of all the conditions of susceptibility or of lowered resistance in the causation of eczema.

Second, the clinical evidence seems to be conclusive that certain conditions of imperfect metabolism predispose to the onset of eczema or, at any rate, to its recurrence, and of these the most common are those associated with improper digestion and assimilation of food.

Arthur Whitfield<sup>2</sup> states that in personally studying the bacteriology of dry eczema, or seborrhœa sicca, the method used for cultivation and examination was the following: In the first place,

scales were examined in potash and by staining; but, as this gave no result beyond the presence of a few cocci of undetermined nature, it was at once dropped. For cultivation the patch was gently washed with a little soap and water, and a few of the scales were then taken by means of a sterilized curette and incubated for twenty-four hours in bouillon at blood-heat. The bouillon cultures thus obtained were then examined, and the organisms present were separated out by means of plate cultures. By examining the mixed-broth cultures a kind of control was established for those organisms which were difficult to obtain on the plates. Thus, streptococci were found present on more than one occasion in the broth, but were never obtained on the plate; on one occasion, a non-sporing obligatory anaërobic bacillus was found which was not isolated, though a luxuriant culture was obtained by means of Kipp's apparatus.

Twelve cases of the disease were examined altogether, with the following results: In every case a coccus was found of variable size (0.6 to 0.4 micron), arranged usually in pairs, the cocci joined by their long axes resembling gonococci; also found in groups and short chains. The coccus grew freely on gelatin, giving rise to a broad, wax-like streak, with slightly-crenated edges, at first of a grayish-white color, sometimes remaining so and sometimes developing a definite yellow at the end of a week. No liquefaction of the gelatin (10 per cent.) occurred even at the end of some months, at the end of which period the organism was still alive. On agar the white growth was indistinguishable from that of staphylo-

<sup>2</sup> Brit. Jour. of Derm., Nov., 1900.

*coccus pyogenes albus*, but the yellow variety never developed such a good golden color as *staphylococcus aureus*. On potato the growth was abundant and slimy, the yellow variety being very distinct and in some cases becoming almost as brown as *bacillus coli*. The organism would not grow well in the track of a stab culture, nor anaërobically. It grew well in milk, which it did not coagulate. The reaction of the medium with moderate limits did not seem of great importance, since it flourished on bouillon which had not been neutralized and was therefore slightly acid. The organism stained well with the Weigert-Gram method. On one occasion it was obtained in pure culture from the original scale, but it was usually associated with some other inconstant organism. Thus, *sarcina lutea* was found 6 times, *staphylococcus pyogenes albus* 6 times, *aureus* 3 times, *proteus* twice, an anaërobic *bacillus* once, and a bright sulphur-yellow, non-liquefying coccus with pronounced zoöglæa (*micrococcus luteus*?) once.

On two occasions inoculations were made upon personal arm with cultures of the non-liquefying coccus, but in neither case was more than a temporary disturbance of the horny layer produced, which healed up at once. The organism did not cause any symptoms when injected subcutaneously into a guinea-pig. The last proof of its causal relationship is therefore wanting; but, in view of its constant presence in the lesions and its being, on one occasion, found in pure culture, it is probably not accidental, though it probably requires a certain predisposing delicacy or damage to the epithelium to allow it to establish itself.

**Treatment.**—In eczema Phineas S. Abraham<sup>3</sup> feels sure that in most cases

the best results are obtained by simultaneous external and internal remedies. The aim should be to get the whole system—all the organs of the body—in a thoroughly healthy condition as well as to destroy the microbes or prevent their growth, and one must see to the digestion, to constipation, to the kidneys, to the circulation, and even to the nervous system—to everything, in fact, which may directly or indirectly influence the condition of the tissues and fluids of the skin.

An iron-and-magnesia mixture, with a little *nux vomica* as a digestive tonic, is frequently given in personal cases, or sometimes an alkaline bitter mixture, with an aperient if necessary. Simple, plainly-cooked food should be recommended, while much sugar, tea, strong coffee, pastry, cheese, beer, acid and sweet wines, or much alcohol in any form is to be avoided. In acute inflamed cases antiseptic, protection, and reduction of inflammation and exudation are to be aimed at, and either powders, pastes, liniments, ointments, or zinc gelatins may be employed. Many cases do well with what is at Blackfriars called the “*unguentum hydrargyri cum plumbo*,” which contains 10 grains of acetate of lead, 10 grains of calomel, 20 grains of oxide of zinc, 20 grains of ointment of nitrate of mercury, and 1 ounce of vaselin. Occasionally an eczematous skin will not stand an ordinary ointment, and a modification of Lassar’s paste may then be tried, *eg.*: 3 drachms each of zinc oxide and starch, 10 grains of salicylic acid, and 1 ounce of vaselin, or a calamin liniment containing 1 drachm of carbonate of zinc and  $\frac{1}{2}$  ounce each of olive-oil and lime-water. When the weeping and inflam-

<sup>3</sup> *Lancet*, Sept. 22, 1900.



mation are excessive, a powder thickly dusted on is sometimes effective, *e.g.*:  $\frac{1}{2}$  ounce of starch, 2 drachms of oxide of zinc, and 1 drachm of powdered borax or boric acid. Many cases of acute eczema which have resisted other applications have yielded to the zinc-gelatin treatment (of Pick and Unna), *viz.*:  $\frac{1}{2}$  ounce of gelatin, 3 drachms of oxide of zinc, 1 ounce of water, and  $\frac{1}{2}$  ounce of glycerin, and, personally, 10 minims of ichthyol are generally added. The mass melted in a glue-pot and painted over forms an elastic, protective, and soothing covering. In all cases, immediately before applying any of the above, the parts affected are to be well bathed with a very dilute antiseptic lotion, preference being for a lotion containing  $\frac{1}{2}$  drachm of creolin to a pint of soft-boiled water.

In dry eczemas, and where there is but little inflammation, tarry ointments are usually very efficacious, as the so-called "unguentum petrolei compositum," which contains  $\frac{1}{2}$  drachm of alcoholic solution of coal-tar, 10 grains of ammoniated mercury, and 1 ounce of vaselin. Creolin is sometimes, with benefit, substituted for the alcoholic solution of coal-tar.

As with the acute eczemas, advice is given to bathe the parts affected with a weak, tarry lotion before applying the ointment night and morning, or even, if the eruption be extensive, a tepid bath containing from  $\frac{1}{2}$  to 1 drachm of creolin or other tar-product to about 6 gallons of water. Soap is generally detrimental in eczemas; a muslin bag filled with bran may be used as a substitute. A warm sitz-bath night and morning with rather more creolin in it—say 1 drachm to 2 gallons—is very useful in obstinate cases of eczema of the perineum and anus. In these cases, too,

the addition to the tar ointment of 10 grains of sulphur or 25 grains of ichthyol is of good effect. This is applied immediately after the bath.

In eczemas of the limbs the ointment should be kept bandaged on. Careful bandaging of the legs from the foot to the knee is an important adjunct to the treatment, especially when varicose veins are also present. In the treatment of eczema it is a mistake to use strong ointments.

According to Alexander Brownlie,<sup>4</sup> ichthyol, whether administered internally or applied externally, is one of the most efficient agents for treating eczema in all its stages.

In the acute cases no washing with soap is allowed, but with warm oatmeal-water instead. When the parts are dry, 10-per-cent. ichthyol soap is used. No special diet is imposed. Ointments are not merely smeared over, but are gently rubbed in, and the parts are covered with lint, linen, or silk, no cotton or flannel being allowed to touch the surface. In cases of eczema of the face, zinc-ichthyol-salve muslin may be used with benefit, but it is rather difficult to keep applied.

From 2-per-cent. to 5-per-cent. ichthyol applications are best in acute forms of inflamed skins, and from 5-per-cent. to 10-per-cent. strengths in more chronic, drier conditions. In all cases the internal administration of the drug is an assistance. Ichthyol taken internally has a direct influence on the skin and is most probably excreted by it. Moreover, the taking of ichthyol internally increases weight, and this applies more particularly to weakly, strumous children.

Itching is not relieved as quickly as

<sup>4</sup> *Lancet*, Nov. 24, 1900.

one might expect, certainly not as quickly as the pain is relieved.

When prescribing ointments, one should advise the patients to use their oldest underlinen, as ichthyol has a staining effect, although it is stated that if quickly washed in warm water any clothing thus stained is made quite clean again.

Ichthyol, of course, is not applicable to every case of eczema, but it is undoubtedly a useful drug in this disease.

G. J. K. Martyn<sup>5</sup> classifies the types of eczema met with in gout as roughly the acute dry, the acute moist, the chronic, and the latent. By this last is meant a burning, itching, tormenting sensation beneath the skin; nothing is visible on the surface. There is no eruption, no roughness, no redness, and, as a rule, no heat. It is one of the commonest complaints of the gouty, and often renders their life intolerable. It is usually worse when the patient is in bed, and is nearly always associated with gouty acid dyspepsia. The treatment consists in enforcing a rigid dietary. All those articles which experience has shown to produce dyspepsia must be avoided; alcohol especially must be prohibited. Bismuth and alkalies must be freely given, and for periods of three weeks with short intervals. To relieve the intense burning and itching, nothing answers so well as a lotion, or ointment containing carbolic acid. Other points in the treatment of this type may be included in the treatment of the eruptive types.

As regards the clothing of a patient subject to attacks of eczema, as little change as possible should be made in the winter and summer clothing and such change should be confined to the outer coverings. A rational form of underclothing is cotton in the cellular

woven form or in the form of Lahmann's cotton-wool clothing. One very essential point in the clothing is the protection of the extremities. Hence, vests should have long sleeves, mittens or gloves should be worn out-of-doors, and warm socks, with spurs over the boots in winter.

Of all localities in gouty eczema, the sea is the worst. The best climate is an equable, fairly-bracing one, where the action of the skin will not be suddenly interfered with.

The diet must be a typical gouty diet with the minimum of proteid and starchy foods, and all those articles which produce an acid fermentation. There are, however, some forms of food which, in eczema, are particularly irritating, and which must be altogether withheld. First and foremost is alcohol. Then all forms of raw or cooked fruit containing much fermentable sugar or acid, especially strawberries, gooseberries, apples, lemons, and rhubarb. All stimulating foods should be avoided.

Of real value in gouty eczema are those drugs which benefit dyspepsia and increase the alkalinity of the blood, such as bismuth, the alkalies, and the bromides. The less irritation there is, and the more the eczema inclines to the dry and scaly type, the more will arsenic be found of value. The daily use of some mineral aperient water, such as Carlsbad water or *Æsculap*, taken in the morning when fasting, should never be omitted. More important than the internal medication is the local treatment of the eczema. For the very acute moist inflammatory type soothing lotions containing lead and opium should be constantly applied. As soon as the irritation begins to disappear, and the

<sup>5</sup> Brit. Med. Jour., Oct. 12, 1900.

exudation lessen, a dusting-powder of carbonate of magnesia and Fuller's earth may be substituted. For the dry, irritable type, nothing excels the old-fashioned tar in the form of the liquor carbonis detergens, and it should be used in a very diluted form as an ointment, 10 minims of the liquor to an ounce of lanolin. When the great area of the body which eczema occupies renders the employment of lotions and ointments difficult, the employment of baths is valuable. Intensely itching eczema is frequently soothed and ultimately healed by such treatment. But when there is much redness or inflammation or exudation, baths only serve to make matters worse. A lime-sulphated water, like the Bath water, is admirably adapted for cases of dry, irritating, scaly eczema. Too much care cannot be taken over the detail of the bath. This should never be given at a temperature exceeding 98°, and the usual hot pack after the bath must be omitted. The whole body must be very carefully dried and powdered after the bath, and the patient must go straight home after thoroughly cooling, so as to avoid any chill to the surface. In the more obdurate chronic types is ordered the addition to the Bath mineral water of sulphur-water prepared by boiling sulphur and slaked lime.

In the aged, the treatment of gouty eczema must, as a rule, be simply palliative. A generous diet with a small amount of stimulant is necessary when the patient gets worn out. Daily sponging with warm sulphur-water is of the greatest value, and the free use of a dusting-powder after drying. Sleep must be procured, if necessary, with bromides or nepenthe.

J. C. Dunn<sup>6</sup> finds that silver nitrate, applied in the form of a 1-per-cent. so-

lution, favorably affects eczema in all its forms.

W. Winternitz<sup>7</sup> has had favorable results in the treatment of eczema by red solar light. The eruptive regions, previously covered with thin silkstuff of an intense-red color, were exposed directly to the solar light as long as possible (four hours in one case). In all the patients thus treated there was a rapid disappearance of the symptoms.

In eczema of the scalp, Joseph Max<sup>8</sup> uses corrosive sublimate, 1 grain, in 1 ounce of vinegar. This kills pediculi and removes the nits, and is used twice on the first day, followed for a few days by acetate of aluminum, and then by the following ointment:—

R Hydrarg. sulph. rub., 5 grains.  
Sulphur sublimat., 20 grains.  
Ol. bergamot., 8 grains.  
Vaselin, q. s. ad 1 ounce.—M.

In the chronic eczema of infants Neuberger<sup>9</sup> has had good results from the internal administration of arsenic. One drop of a mixture of equal parts of Fowler's solution and distilled water may be given in milk after the midday meal, and gradually increased to 6 or 7 drops to infants of two years and over. In sucklings and infants under two years of age, 1 drop of Fowler's solution of the strength of 1 in 3, gradually increased to 5 drops, may be given. The treatment usually lasts sixteen or eighteen weeks.

Zinc-oxide paste containing 1 to 2 per cent. of yellow oxide of mercury is recommended by L. Leistikow<sup>10</sup> in the

<sup>6</sup> Med. News, Sept. 29, 1900.

<sup>7</sup> Sem. Méd., Aug. 15, 1900.

<sup>8</sup> Med. News, Oct. 6, 1900.

<sup>9</sup> Archiv f. Derm. u. Syph., vol. xlvii, 1899.

<sup>10</sup> Monats. f. prak. Derm., Sept. 1, 1900.



squamous or the milder grades of papular or vesicular eczema of children.

Rille<sup>11</sup> considers tar preparations contra-indicated in children, and thinks that milder applications should be used. Ointments aggravate acute eczemas; a lotion of boric acid, menthol, and carbolic acid (1 per cent.) in spiritus vini Gallici is of value. In moist eczema with crusts, after removal of the latter, compresses of silver nitrate (1 in 400) are applied twice daily for two hours, and in the intervals diachylon ointment. Cases of universal eczema are treated in bed, vaselin being applied several times a day, and the inside of the night-dress dusted with starch.

## HERNIA.

**Diagnosis.**—Lucy Waite<sup>12</sup> reports the case of a woman with a tumor-mass protruding from the left femoral ring, exquisitely sensitive, the size of a small hen's egg, hard, and somewhat nodular. There was no fluctuation, no impulse on coughing, no difference in size on taking the upright position, no history of constipation, and no pain during bowel movements.

On the operating-table the tumor was exposed by dissecting upward a small circular flap. It was the opinion of the operator and those witnessing the operation that the diagnosis lay between an ovarian and omental hernia.

After removing the fatty tissue, together with adhesions which had formed around the sac, it was evident that the mass did not contain an ovary, but resembled a thickened piece of omentum. At this point it was decided to snip out a piece for microscopical examination and return the mass to the abdominal cavity. In cutting out a very small piece for this pur-

pose a clear fluid oozed out of the mass! It seemed to be evident that an opening had been made into a cyst of some sort, and the suspicion that this opening communicated with the bladder was immediately confirmed by the passing of a sound through the very small incision. The sound was distinctly felt in all parts of the bladder.

The opening was quickly closed by three sutures of linen thread.

A slight snip was made in Gimbernat's ligament and the small tumor returned to the abdominal cavity. The femoral canal was closed by catgut sutures, the flap sutured in place by silk-worm gut, carefully dried, and sealed by a collodion dressing.

The patient made a normal recovery. Catheterization was continued for several days, as the patient was unable to pass the urine.

**Etiology.**—Irving S. Haynes<sup>13</sup> says, in summarizing the architectural features which predispose to a hernia in the femoral region, one finds these present:

1. The peritoneal depression, especially prominent if the usual filling of fat and Rosenmüller's lymphatic gland are absent, or Poupart's ligament is unduly lax.

2. An open, according to Joessel, femoral ring and canal.

3. The course of the femoral canal leading directly outward from the abdominal cavity.

4. The large saphenous opening covered by the weak cribriform fascia.

5. Considered most effective personally, the presence of the large compressible femoral vein.

<sup>11</sup> *Wien. Klin. Rund.*, March 18 and 25, 1900.

<sup>12</sup> *Amer. Jour. of Surg. and Gynec.*, Oct., 1900.

<sup>13</sup> *Med. Record*, Oct. 13, 1900.

R. Hamilton Russell<sup>14</sup> has operated upon 80 cases of hernia in children, and has found that the whole number are caused by the presence of a congenital sac. He finds, further, that, of the 80 congenital sacs, 79 were of funicular origin. It is inevitable that from these facts he should deduce the following conclusions: 1. Inguinal hernia in young subjects is caused by the presence of a congenital sac, and there is no other cause. 2. The sac is, in the vast majority of cases, an unobliterated portion of the processus vaginalis. 3. Acquired oblique inguinal hernia in the young has no existence in fact. 4. Seeing that oblique inguinal hernia cannot occur in the absence of a congenital sac, there can be no recurrence after the sac has been efficiently removed.

**Symptoms.** — Evan O'Neill Kane<sup>15</sup> states that it should be borne in mind that the symptoms of inguinal hernia are not entirely local. A quite insignificant rupture will often cause grave nervous disturbance, and by continued reflex irritation gradually induce actual visceral lesions in other regions.

Thus, prominent among these reflex disturbances is cough. This becomes constant and harassing, finally inducing a chronic bronchitis, which exhausts and debilitates, preventing sleep and aggravating greatly the original injury in the inguinal region.

Again, colicky pains of a vague character or more or less severe cramps, with or without nausea and vomiting, are commonly met with in cases where, from time to time, a knuckle of gut partially or completely descends the canal, even though so small as to elude detection by both physician and patient. The subjective symptoms are then not unlike those of recurrent catarrhal appendicitis. Actual gastric and intes-

tinal disturbances are, in time, produced also, such as are possessed by most chronic dyspeptics.

Another perplexing and distressing group of reflex impressions is that imparted to the genital organs, leading the patient to believe himself a sufferer from some sexual disorder.

**Treatment.** — In the preparation of the patient for an operation for hernia C. B. Parker<sup>16</sup> thinks that, if the case is not one of incarcerated or strangulated hernia, it is well to have the patient in bed a few days before operation, in which time the bowels can be regulated, and the diet as well. It is best to give cathartics the second evening before operation and a simple enema the evening preceding operation. Copious draughts of water during the day before operation relieve the patient of the continuous sense of thirst. After a bath and shaving of the pubes, and thorough disinfection with a bichloride solution of 1 to 1000, a soap poultice is applied for the night over the seat of operation. This is made by chipping "ivory soap" into the least possible quantity of water to cover it and letting it stand for a few hours until reduced to a paste, which is applied one finger thick between two pieces of absorbent gauze. It is very penetrating, though non-irritating, and facilitates the subsequent scrubbing and disinfection that is to take place just preceding operation. The great advantage over the moist bichloride pack is that it is never attended by any rash, which so often follows the use of mercurial solution.

James B. Bullitt<sup>17</sup> asserts that the radical cure of umbilical hernia in

<sup>14</sup> Lancet, Oct. 20, 1900.

<sup>15</sup> Penna. Med. Jour., Aug., 1900.

<sup>16</sup> Cleveland Med. Gaz., Oct., 1900.

<sup>17</sup> Annals of Surg., Nov., 1900.

adults has been so unsatisfactory that most writers still advise that the hernia should be retained by a pad if still reducible, and supported by a suspensory bandage if irreducible, radical cure only being attempted when operation is necessitated by strangulation. The unsatisfactory results are due to the great tension which attends the closure of the ring, it being impossible in many cases to oppose at all the fascia constituting the margins of the ring. The best results have been obtained by splitting longitudinally the inner margins of the sheaths of both rectus muscles and subsequent suture of the abdominal wall in layers, the peritoneum and overlying fascia being first united, then the two recti muscles, then the anterior sheaths of the latter, and, finally, the skin. This is the operation described by Tillmanns. It must be remembered, however, that in many cases it will be found impossible to unite the anterior sheath of the rectus muscles after splitting in the way described, or at least such union would be possible only under great tension, which in all probability would defeat the ultimate success of the procedure.

It might be found possible to modify the operation detailed above by dividing the anterior sheaths of the rectus muscles vertically an inch or more from the ring-borders. The strong fascia obtained in this way would then be turned over across the aperture, the inner sides of the flaps becoming the outer sides as they were sutured in place. The freed recti muscles could then be brought in apposition as before. Closure could be effected in this way without any tension. The wall over the recti muscles would be weakened; but as the rectus has here a posterior sheath, this weakening would not be serious.

According to B. C. A. Moyaúhan,<sup>8</sup> the treatment of a doubtful or gangrenous loop of bowel in a hernial sac can hardly be considered as ordained by universal custom. Resection of the loop and suture of the ends is, from all points of view, the most satisfactory in those cases where it can be legitimately done; but there are not a few patients in whom such a course would be wholly unjustifiable. In these the alternative courses are:—

1. Opening of the bowel (*a*) with, (*b*) without, the division of the constriction at or near the neck. There are several recorded examples of persisting obstruction when the bowel has been merely opened. The division of the constriction adds no risk worth considering, and should be adopted.

2. The removal of the gangrenous loop and the stitching of the open ends to the skin, or the introduction into the distended end of a Paul tube.

3. Helferich's operation. The pulling down of healthy bowel beyond the loop (above and below it), and the union of these by a Murphy button. The gangrenous or doubtful loop is covered with an antiseptic dressing, and resection performed when the patient has rallied.

But in all cases the surgeon must recognize that, if possible, with reasonable prospects, resection and suture should be performed.

## TUBERCULOSIS OF THE LUNGS.

**Diagnosis.**—In making a very early diagnosis of this disease Charles Rod<sup>9</sup> deems an accurate, painstaking personal history regarding exposure, environment, occupation, symptoms, etc., as most important.

The most important early symptoms

<sup>8</sup> Practitioner, Nov., 1899.

<sup>9</sup> British Med. Jour., Oct., 1900.



is a slight, dry, unobstructive cough of the hacking or throat-clearing variety, which grows worse as the disease progresses. During the well-known periods of exacerbation of the process the cough is worse, and often this is the only time there is any sputum. Even when there is not very suspicious-looking sputum and no bacilli are found, one should not be too hopeful. In doubtful cases the sputum should always be centrifugated and several slides which have been carefully stained (by Gabbet's method, as a preference) are to be examined with a high-power, oil-immersion lens. Due account must also be taken of elastic tissue, etc.

Very careful thermometry at about three-hour intervals is of considerable value in making a diagnosis, particularly when one, for a considerable number of days in succession, has a rise in temperature between 2 and 5 P.M., and yet this rise may not go higher than 100° F. In early tuberculosis there is usually a temperature not above normal between 7 P.M. and 10 or 11 A.M. A normal or practically normal temperature after 5 or 6 P.M. is of great diagnostic import. In the early morning hours probably the temperature is more often subnormal than otherwise.

Next in importance is the pulse-frequency and arterial tension. In the beginning of the disease there is usually an almost constant acceleration of ten to twenty beats per minute, with diminished pulse-tension, which frequency is usually not influenced by the patient being in a reclining posture.

When it occurs, hæmoptysis is an ominous symptom.

The gastric symptoms are also very important, and there will be usually more or less impaired appetite, defective digestion, constipation, or diarrhœa, etc.

A most thorough and systematic examination of the chest will often confirm interpretation of the symptoms, even in the very early cases. On the other hand, pronounced symptoms may precede by many months the stage at which adventitious signs can be demonstrated. Menstruation and palpation may show impaired expansion, but it is the auscultatory signs that are of most value in the early cases. Especial stress is to be laid on localized fine crepitations, with moist râles on forced inspiration. This may be accompanied by prolonged, high-pitched (may be rasping) expiration.

De Lancey Rochester<sup>20</sup> remarks that the first examination of the chest in a given case for the purpose of diagnosis should be made with the chest absolutely bare to the waist. A light sheet or blanket may be thrown over the back when the front of the chest is being examined, and over the front of the chest when the back is being examined, but all other covering should be removed. The earliest signs show themselves, as a rule, at the apex of one or the other lung. The signs that first show are, on careful scrutiny, a slightly-lessened movement in either the supraclavicular or the infraclavicular region; the diminished expansion on one side can often be appreciated only by carefully comparing corresponding intercostal spaces with each other. Usually at this stage the vocal fremitus, as transmitted to the hand, is not affected. A slight diminution in percussion-resonance is the most suggestive sign of beginning infiltration or localized pleurisy. Even a slightly-high-pitched resonance, without real diminution in the resonant

<sup>20</sup> Phila. Med. Jour., Dec. 1, 1900.

quality is usually indicative of beginning infiltration, except when it is found only in the right infraclavicular region, where, in a certain number of cases, there is normally a slightly-higher pitched note than on the left side.

One of the early signs on auscultation is a breathing slightly diminished in intensity, particularly if this diminution is chiefly noted during inspiration and the expiratory sound is prolonged, even though the pitch of the sound may not be materially altered from the normal. This change in breathing may often be noticed only in the supraclavicular or suprascapular region.

The increase in vocal resonance and the occurrence of the expiratory whispering souffle or whispering pectoriloquy associated with prolongation of expiration, if heard in the supraclavicular region, are proof positive of infiltration and, if associated with any two or more of the previously enumerated symptoms, of infiltration of tubercular origin.

Another important sign of infiltration of the right lung is the transmission of heart-sounds, first and second, to the infraclavicular region of the right side. The occurrence of a cardio-respiratory murmur just below the clavicle means an adhesive pleurisy making traction or pressure on the subclavian artery or vein, and is an additional evidence of involvement of right lung, but is not so certain as the transmission of the heart-sounds themselves.

If, in addition to any of these signs, there are moist râles to be heard, the diagnosis is made so much the more sure.

If, in a given case, the physician is not really certain of the diagnosis, or the patient requires to be convinced, in

tuberculin we have a most valuable diagnostic aid.

Chavry-Martin<sup>21</sup> has found a single click, heard at the end of inspiration, to be the most reliable physical sign in the very beginning of the disease.

In the examination of sputum for tubercle bacilli Carl Weidner<sup>22</sup> almost invariably uses the method of C. Guenther. It is highly recommended by Guenther himself, and he lays great stress upon the mirroring of its examination which should be carried out as follows:—

1. Spread the sputum upon the cover-glass, as a thin homogeneous layer. This is best done by means of a sterilized platinum-wire loop fixed in a glass rod, because it is well suited to pick out the purulent masses from the sputum, and because it is cleaner than the common method of spreading small particles of sputum between two cover-glasses.

2. Dry the sputum thoroughly in the air.

3. Fix it by passing it through a flame three times.

4. Float the cover-glass with the sputum side downward in a watchcrystalful of Ehrlich's solution of either anilin-gentian-violet or anilin-fuchsin.

5. Heat over a small flame until the staining fluid begins to boil.

6. Set aside for one minute to prolong the action of the stain.

7. Remove the cover-glass with the forceps and, without washing it in water, place it in a solution composed of 3 parts of hydrochloric acid and 97 parts of absolute alcohol. Leave in this solution for one minute and rinse well in distilled water. The specimen ought

<sup>21</sup> Brit. Med. Jour., Sept., 29, 1900.

<sup>22</sup> Medicine, Aug., 1900.

to appear nearly free in all color to the naked eye.

8. Counter-stain in a weak solution of methylene-blue for several minutes.

9. Wash in distilled water, dry in the air, and, if one wants to keep the specimen, follow it up by passing it again through the flame. This is done for the purpose of getting rid of all acid which might have a decolorizing effect later on; then mount in xylol-balsam and inspect with a good  $\frac{1}{12}$  oil-immersion lens, using open condenser and maximum illumination.

The picture will be as follows: If xylol is used the tubercle bacilli will be seen as little red rods upon a blue ground. Everything that is red should attract attention. Not everything that is red, however, is a tubercle bacillus. There are other substances which may assume this red stain, and they ought to be differentiated. Epithelial scales, hair, fatty crystals, etc., may be affected in this way where a single stain is used. Spores of any bacilli may also be stained, but these have a different shape, and one ought to differentiate each one of these substances from the tubercle bacilli. The latter are arranged singly, or in little bunches, or frequently in a V-shaped arrangement, and they are spread all over the cover-glass. They are slightly curved and often have a beaded appearance, which is so characteristic in active bacilli well prepared. It is of the utmost importance that their direction be removed completely.

**Insurance.**—In referring to the question: Are there any conditions under which the tuberculous can be insured with any kind of policy and at reasonable rates? I feel I have<sup>1</sup> answered that most comprehensive negative question, and am in all probability satis-

fulous, providing the heredity, the previous history, and the environment make it appear probable that the individual will live long enough to pay the cost of the particular kind of policy that is issued. These policies must be credited partly to benevolence, though with the safe company the business interest demands very good judgment and a high premium in such cases. There are many more cases that might be safely arranged for limited periods; but the insurance company must always estimate the possibility of error or undue sympathy on the part of the examiner; therefore, it cannot take any chance. There are also certain companies that make a specialty of extra-hazardous risks at proportionate premiums. These policies are sometimes most expedient, but usually the rates are prohibitory.

**Prophylaxis.**—In referring to some problems pertaining to tuberculosis, A. Mansfield Holmes<sup>2</sup> notes that the results desired may be summed up as follows: (a) There should be less danger to the well in health resorts, and (b) better care for the afflicted who come to these resorts.

To secure such ends the following points should be observed:

1. States possessing climatic advantages favorable to tubercular persons should not quarantine against tuberculosis. Patients coming to these resorts should come early.
2. Each State blessed with the conditions producing a congenial climate for such persons should enact and enforce rigid sanitary and preventive measures against their loss from tuberculosis.
3. The poorest people in all States

<sup>1</sup>Am. J. Hyg. Med. Assoc., Oct. 20, 1900.

<sup>2</sup>Denver Post-Times, Nov., 1900.



should receive systematic instruction; it should be the purpose of all to ascertain the true sources of tubercular infection, and our States and cities should formulate rational rules to prevent and overcome these sources of danger.

4. These rules for the public should become popularized through the daily press and public schools, and literature should be freely circulated by boards of health.

5. Rules should be formulated for the government of households in which some member is afflicted with tuberculosis, to guard against the infection of the well members.

6. Rules for the safe deposition of tubercular secretions should be concisely formulated.

7. Precautions should be taken against infected foods; dairies should be carefully inspected and the tuberculin test periodically given to dairy cattle.

8. Rigid precautions should be taken in cities located in health resorts where tubercular persons congregate.

9. The compulsory reporting of tubercular cases should be demanded by boards of health, and apartments occupied by all persons thus reported should be periodically fumigated.

10. As far as possible, tubercular persons should be prevented from congregating in thickly-settled districts. Many persons would go to ranches, or less-densely-populated regions, but these are destitute of the real necessities which are important in the treatment of this disease.

Hermann M. Biggs<sup>25</sup> says it may be asked: When cases are registered, what sanitary measures should be proposed for the prevention of the disease? In reply he would say:

1. The inspection of the premises to

tenement-houses, lodging-houses, hotels, boarding-houses, etc., and the personal instruction of the consumptives by medical inspectors as to the necessary precautions and the furnishing of proper circulars of information in regard to the disease and the method of its extension.

2. The disinfection or renovation of all premises vacated by the death or removal of consumptives, and, when required and practicable, employment of the same measures during life.

3. The removal (so far as it is possible, to provide hospital accommodations) of all advanced cases, who are unable to work and who will consent to enter a hospital.

4. The provision of accommodations in country sanitariums for incipient cases.

5. The supervision of shops, occupations, and conditions where consumptives are employed.

6. The forcible removal in those rare instances, in which consumptives are unwilling or unable, because of weakness, to observe required precautions, and where such removal is deemed necessary, because of the unusual exposure to which others are subjected.

Notification seems a logical necessity and a necessary preliminary to the adoption of other sanitary means for the prevention of this disease.

**Diet.**—Henry L. Shively<sup>26</sup> finds that in the diet of the consumptive the keynote is the administration of milk, and its assimilation by the patient will often afford a reliable indication of the prognosis. Patients who can take large quantities of milk, month after month, usually do well. When milk cannot be taken in some form the prognosis is

<sup>25</sup>Public Med. Jour. Dec. 7, 1902.  
<sup>26</sup>Ibid.

likely to be fatal. Too much importance should not be attached to the patient's statement that he cannot take milk or that it makes him "bilious." The addition of a little bicarbonate of soda, lime-water, or Vichy will often make it well borne. Hot milk may agree better than cold. In some cases peptonizing the milk may be necessary, or matzoon or koumiss may be tried. In summer buttermilk is often relished for a change. For an adult as much as 2 quarts of milk a day is desirable, and where it is taken well a little cream may be added. In addition to the milk when the patient's stomach is in good condition, a full nutritious diet, with an abundance of fats, is advised. Broiled steak and chops, roast beef, eggs, poultry, oysters, soups, and a liberal quantity of butter are recommended. Pork and veal are excluded and the starchy vegetables are restricted. Cereals should have a minor place in the dietary. If milk cannot be taken, the next best thing is malt-liquors in moderation, such as beer, ale, or stout; but, when milk agrees, they are not advisable.

**Treatment.**—According to Norman Bridge,<sup>27</sup> the needs of the tuberculous patient are not one, but several, and apart from special medication include: (1) Rest from work; (2) change of work and cures, so as to shift the load from parts that have borne it to those that are fresh; (3) painstaking attention to the digestion and the feeding and nutrition of the body; (4) long hours of sleep; (5) out-door life, much sunshine, and fresh air every hour; (6) a change of surroundings for novelty and pleasure, and to help shift the load; and finally (7) a change of climate, to a better one if possible, but a change anyway.

Homelessness wholly counteracts any good effect of climate in many cases,

and in others does worse. Patients are often sent away alone, severing all their previous associations and ties, and are expected to shift for themselves among strangers, to keep up their courage, and in the face of depressing symptoms to gain in health. The average of them cannot do it, and friends or relatives or nurses should always accompany and care for them.

Only those patients recover from pulmonary tuberculosis who have, under good hygiene and treatment, nearly enough resisting power within their bodies to counteract the disease. With other things as favorable as possible, or nearly so, a good climate—and a change from the home climate—is an influence that will often tip the balance in favor of recovery.

In speaking of the advantages of the sanatorium treatment of tuberculosis when change of climate is not possible, E. S. Oliver<sup>28</sup> says the average family practitioner recognizes the disease only when the symptoms are so prominent and the physical signs so unmistakable that the patient is already too far gone to stay its downward course.

The plan personally proposed is that where a general practitioner, or a specialist in pulmonary disease, has under observation and advice two or more cases really incipient, he should have them sent to a cottage, rented or built for the purpose, in some favorable situation in the suburbs of his city or town, say, ten miles from its limits,—where the air is uncontaminated by dust or smoke and the surroundings rural and attractive; a trained nurse should put the patients through, under the physician's close supervision, the regular

<sup>27</sup>*Ibid.* Amer. Med. Assoc., Oct. 20, 1900.

<sup>28</sup>*Ibid.*

sanatorium life as it is pursued in the Adirondack Cottage Sanatorium and the Muskoka Sanatorium on this continent, and in similar institutions in Europe.

In choosing a site for the miniature sanatorium, a slight elevation should be selected for the cottage, the exposure of the main verandas and bedrooms for patients to be on the south.

The daily program of a patient in the Adirondack Cottage Sanatorium is as follows:—

7.00 A.M. Temperature taken while patient is in bed.

7.30. Patient rises; sponge-bath—cold or tepid.

8.00. Breakfast.

8.30. Patient reports at pharmacy or physician's office; while waiting can write letter and send it off in the 9.30 mail.

9.30. A stroll, if permitted to exercise; or a drive, if not.

10.30. A glass of milk or an egg, or both; reads, studies, or works until 12 M.

12 to 1. Rest in a hammock or on a couch in the open air until dinner.

Dinner. After dinner, rest until 3.30, temperature taken, and then extra nourishment given.

3.30. Milk or egg, or both.

3.30 to 5.30. Patient reads, studies, works, strolls, or drives, according to strength and the doctor's advice.

5.30 to 6. Patient lies in the hammock or on a couch in the open air.

6.00. Supper.

6.30. Patient reports, if necessary, at the physician's office; sits or lies on veranda, or attends some form of amusement provided in the parlor or pavilion.

8.00. Temperature taken.

9.00. Extra nourishment, milk or egg, and retires.

Letter-writing is limited to the bare necessities of correspondence and is done only in the morning hours.

All forms of mental and physical exertion are forbidden so long as there is active disease, with elevation of temperature above 99.4° F., or other constitutional symptoms. The reading is selected to divert the patient's mind from his afflictions to more cheerful topics, and games are allowed, provided they do not involve any harmful exertion of mind or body.

The food provided at the Adirondack Cottages is selected by the superintendent, Mrs. Julia A. Miller, from a long experience in such work. For breakfast: Fruit, oatmeal, wheatena, "Pettijohn," beefsteak, lamb-chops, bacon, eggs cooked in a great variety of ways,—soft-boiled, scrambled, fried, poached, made into omelettes, etc.,—brown bread, wheat-bread, corn-bread, muffins, griddle-cakes, etc. For dinner: A simple, but appetizing, soup; fish, roast or boiled beef, roast lamb, fowls prepared in various ways, corn-beef, vegetables, cabbage, tomatoes, potatoes cooked in an infinite variety of ways, beets, pease, beans, rice, lettuce, squash, asparagus; for desserts, ice-cream, nuts, pies, puddings, custards, jellies, fruits. For supper: One hot meat, cold meats, white and brown bread, toast, some hot cereal food, baked beans, potatoes, eggs, preserved fruits, jellies, jams. Milk is furnished at the table at every meal, and is provided for each patient to take with him to his cottage for the between-meal nourishments.

E. Payne Palmer<sup>1</sup> says that Ocker writes that the requirements of a suitable climate for tuberculous patients are pure air, an equable temperature

<sup>1</sup>N. Y. Med. Jour., Nov. 11, 1889.



not subject to rapid variations, and a maximum amount of sunshine. Given these three factors, he says, it makes little difference where a patient goes so long as he lives an out-door life.

Phoenix, Arizona, can boast of possessing all three requirements of this great authority, and to them can be added the lowest relative humidity, the highest mean temperature, and the slightest wind-movements.

The difference between the temperature of the day and night is quite marked, both in winter and summer. This is the most objectionable feature that the climate has for a tuberculous patient, but, with proper care and prudence, one need have no fear of it, even during the winter.

During the winter months the noon-day temperature is about 65° F., and heavy frost is very rare.

Most of the time can and should be spent out-of-doors. During the summer the prevailing custom is to sleep in screened sleeping houses or on screened porches. Many live in tents throughout the year, and derive great benefit from doing so.

The physician should send his cases in their incipency, if he looks for good results. Those in the second stage, or stage of softening, show marked improvement, and many, after a sufficient time, can be said to be practically cured. The advanced cases should not be sent, as they derive very little benefit; so it is best that they remain at home, where they can have home comforts and friends to look after their wants.

Some patients are sent with the idea that the climate will "do all." That is a great mistake. The climate will do a great deal, but to get the best results, it must be supplemented by the proper diet, exercise, rest, baths, and treat-

ment, as deemed necessary to suit each case.

W. H. Swan<sup>30</sup> would urge three points regarding the sending of tuberculous patients to Colorado:—

1. Patients with far-advanced phthisis should not be sent to Colorado, unless they are able to make the change without serious fatigue, and unless they can live there in the manner they should and for a *prolonged period*.

2. *Early* cases are not to be sent, unless there are assured means for proper hygienic living for a period sufficiently long to get the patient well enough to earn, in part at least, his living, and to find employment. How long will depend upon the individual case and his progress, but, roughly speaking, three or four months at least. There are many openings for employment, but more people looking for the desirable ones.

3. Most important of all, the invalid should be instructed to rest and *keep* quiet after his arrival until some one competent to advise him considers it safe to begin to exercise; and then his manner of life and hygiene are to be directed from time to time, according to his progress and condition.

Los Angeles City should not be considered as a health resort for the consumptive. For the benefit of the public, as well as of the consumptive who chances to come under William H. Dukeman's<sup>31</sup> care for treatment, he impresses upon him the necessity of living in the country and, if he desires to get well, he must, of necessity, give up his time to the work of getting his health. To all such patients he supplies written or printed rules or general advice, that

<sup>30</sup> Boston Med. and Surg. Jour., Nov. 1, 1900.

<sup>31</sup> Med. News, Aug. 4, 1900.

they may not forget their duty to themselves, as well as to others.

The following is a copy:—

GENERAL ADVICE.—1. You must live in the country and there make every effort to try to get well.

2. A patient who tries to get well has ten times as many chances of getting well as the one who is careless and indifferent.

3. You must avoid worry, anxiety, and excitement.

4. Be hopeful and cheerful, for your disease can be cured if you will but do your duty in strictly following the advice here given.

5. As a rule, do not leave the house during the winter months until one hour after sunrise. Live out-of-doors all day. Remain in-doors only on rainy and very windy days. Remain in the sunshine as much as possible, and a greater part of the time recline on a couch or in a hammock in a comfortable position; protect your head from the sun's rays, the rest of the body lying bathed in the warm rays of the sun.

6. Always breathe through the nose and take your breathing-exercises regularly, as I have instructed you.

7. Avoid dust as you would rain and dampness, and all places where the air is bad, such as theatres, concert-halls, or any crowded meeting-place, and lodging-houses.

8. Take your walking exercises regularly as prescribed, but never walk when you are tired or when you have a high fever (temperature 100° F. or over).

9. Dress neatly. Be clean and comfortable, but never wear a chest protector, as they are injurious; wear woolen undergarments, as well as woolen socks and thick-soled shoes to keep your feet warm and dry.

10. Never stay or sleep in an over-

heated room. In this climate, however, in the mornings and evenings during the winter months you should have a small fire to keep your sitting-room comfortably warm, at about 65° to 68° F. Do not heat your room with an oil-stove.

11. Never use your sleeping-room as a sitting-room. Keep all the windows open in your sleeping-room all day long and one window open all night. On cold evenings close the window a little before sundown and then when you go to bed open one window, for you must have fresh air while you sleep. Fresh night-air is as good for you while you sleep as is day-air while you are awake.

12. Retire every night before 9 o'clock. Have at least nine hours sleep; when thoroughly rested, get up any time after 7 A.M.

13. Never expectorate any place where it can dry. In-doors always expectorate in a spittoon which is partially filled with water containing some antiseptic solution, such as carbolic acid (teaspoonful to a pint of water) or some other antiseptic. When you cannot conveniently get to the spittoon use your pocket-flask. Never swallow your expectoration. Never expectorate in your handkerchief, nor use the same handkerchief to wipe your nose which you have used to wipe your mouth. Always cover your mouth with your handkerchief while coughing or sneezing. Never cough while at the dining-table; by a little effort you can suppress the cough.

14. Never kiss anyone, for your disease is infectious.

15. Keep your teeth clean by brushing them after each meal and use your mouth-wash and nose-wash night and morning, as advised.

16. Take a warm bath once a week,

to be followed by a rapid sponging with cooler water and a vigorous rubbing with a rough towel. If you are too weak to do the latter and you do not have an attendant, rub your entire body with alcohol.

17. Never use tobacco in any form. Never use any alcoholic beverages without the special directions of your physician.

18. Coax your appetite with a varied nutritious diet, as per diet-list given, and eat all you possibly can. A good nutritious diet, plenty of fresh air and sunshine are the best medicines.

19. Should there be any intercurrent symptoms, such as indigestion, diarrhoea, constipation, restless nights, increased cough, pain, blood-streaked expectoration, do not be alarmed, but notify your physician without delay.

20. By carefully following the above instructions, as well as the advice given you at the office, the chances of your getting well are *greatly* in your favor.

Drugs as curative agents are all wanting, and no one remedy is anything near a specific. Personal main hopes are to induce the patient to go and live in the country, treat symptoms as they arise, eat plenty of easily-digestible nutritive food, especially milk, eggs, and beef. One patient who ate as many as 10 to 12 eggs daily for months recovered without any medicine other than a digestive mixture.

Joseph Eichberg<sup>32</sup> insists that the patient must live out-of-doors. In winter he does this by being warmly muffled up in fur and blankets, with hands and feet well covered and sitting or lying in the open air in the sunshine if possible; protected from the wind, if need be, by a small canvas screen. If there is rain or snow, a glass-encased veranda will supply the place of the solarium of the

sanatorium; or a canvas cover to the veranda, leaving an opening for free access of air, will answer very well. The patient rests out-of-doors and must therefore be well covered with clothing and wraps. In summer the shady spots in the open will naturally be sought. At night the windows of the bedroom are kept wide open, winter and summer. The excessive cold of the winter night may be tempered by a grate fire in the open hearth, but fresh air must enter freely from without.

Next to good air must be placed good food. Of this, too, there must be an abundance. Any craving for plain, wholesome, easily-digested foods, or for fruits should be indulged; and, contrary to the plan for healthy individuals, the patient should be steadily encouraged to eat more than he wants. Cream and butter should be introduced into as many dishes as possible. Buttermilk and koumiss make acceptable beverages, particularly where fever is present. Albumin-water, flavored with lemon-, orange-, or pineapple-juice may be substituted for the raw eggs. Concentrated soups, thickened with rice, barley, farina, or sago, having an egg or two stirred through each cup, should be taken daily.

Finely-scraped raw beef, served with salt and pepper, or covered with a layer of grated chocolate, will be taken when cooked meats are objected too. Game of all kinds may be allowed. Of questionable propriety is the use of pastries, sweets, or stimulants, including, under stimulants, coffee, tea, and alcohol. As a general practice, they should be omitted from the dietary. The object always is to crowd the nourishment,

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<sup>32</sup> Med. News, Oct. 6, 1900.



keeping watch over the digestion, so as not to cause the patient to rebel.

The third feature is good rest. He must rest, in the day on a reclining chair or couch in the open air, at night in his bed.

It has been thought a wise plan, particularly at high altitudes, to urge exercise in the open air; camp-life, good enough in itself, but likely to be attended with many needless hardships, not necessarily severe, but always excessive for the sick man; cow-boy life on a ranch; mountain-climbing, etc. All of these have their advantages, when the sick man is no longer sick, but while he is sick he must rest, absolutely, continuously, and cheerfully. Absolute rest means mental rest as well as physical; this rule is so strictly enforced at Nordrach that patients go to no entertainments, receive no visits, and have their telegrams and letters passed upon by the director; so that no unwelcome, disturbing, or exciting news may reach them. The family, as well as the patient, must be advised and cautioned to eliminate all sources of excitement and worry. The patient should be allowed to sleep as much as he chooses, being awakened only for meals. With a perfectly-normal temperature the patient may take a short walk, the thermometer being used after the exercise. If there be return of fever, the walk is either not repeated or greatly shortened. If the temperature remains normal, exercise may be made a part of the daily program, always being controlled by frequent use of the thermometer. The patient cannot rest too much in the early part of the treatment.

The fourth factor is good cheer. The moral influences surrounding the patient are all-important.

The sick man requires constant

encouragement from physician and friends. There should be no manifestations of sympathy, but all conversation should be based on the promise of final recovery. The hope of achieving such result must be held out as an incentive to rigid adhesion to the prescribed rules.

Many cases have so far recovered as to be able to resume work without any medicine. It may serve a certain purpose to give some simple tonic. Creasote in small doses or the bitter tonics can thus be employed. For the night-sweats, a pill of agaricin, gr.  $\frac{1}{4}$ , and atropine, gr.  $\frac{1}{96}$ , may be given at bed-time. A sponge-bath of vinegar and water, mixed in equal parts, given at bed-time may control the night-sweats without special medication. If cough or pain be very severe, dionin, gr.  $\frac{1}{4}$  to  $\frac{1}{12}$ , or heroin, gr.  $\frac{1}{12}$  to  $\frac{1}{24}$ , will be found very serviceable. Diarrhœa, if not dependent upon tubercular ulceration of the intestines, may be checked by the use of benzosol and codeine, or by opium and its derivatives.

The patient, whether married or single, should occupy his or her own bedroom. Sputum should be received in a vessel containing disinfectant solution of some kind and should be emptied into the drains, if in a large city, or preferably burnt. Underclothing worn during the day should be changed at night. The bowels should be evacuated daily. Where practicable, the weight should be taken every two weeks.

In the employment of general cold applications in cases of pulmonary tuberculosis, J. H. Kelliger<sup>1</sup> considers it necessary to observe with care certain precautions:

1. A more cold application should

<sup>1</sup> Med. News, Nov. 17, 1900.

never be made when the surface is cold, when a chill is impending, or when the patient feels chilly, nor when the temperature is high.

2. Cold applications should not be made to the entire surface at the same instant until the patient has been trained by carefully-graduated partial cold applications, in which the whole surface is gone over by applications to small territories in succession. This is especially necessary in cases in which there is a hæmorrhagic tendency. When the application is made to small areas in succession, as in the wet hand-rubbing, cold mitten-friction, cold towel-rub, reaction is produced in each part before proceeding to the next.

3. The intensity, duration, and frequency of applications must be accurately adapted not only to the patient's ability to react, but to his power to digest and assimilate, the aim being to stimulate constructive metabolism more than destructive change. A loss of weight indicates the necessity for rest from exercise and diminished intensity, duration, or frequency of the cold application.

4. In applications for the lowering of temperature, all the antithermic measures such as are used in typhoid fever and other infectious fevers, as the Brand bath, the cooling pack, cannot be safely employed because of the intense internal congestion produced by these measures, and for the further reason that the resistance of the body and its heat-making capacity are greatly reduced, so that only mild measures are tolerated. A neutral bath, wet hand-rub, wet towel-rub, administered carefully, and at temperatures ranging from 85° to 92° F., are best suited to the purpose. The cooling head-compress and the cold abdominal and the cold

chest-compress are also useful as a means of reducing fever.

5. Great care should be taken to avoid producing prolonged chill at any time, and, especially in the beginning, measures which produce retrostasis by causing contraction of the blood-vessels of the entire cutaneous surface are not well tolerated except in the incipient stages of the disease.

6. The patient's weight, general strength, appetite, and temperature are matters which should be carefully studied in relation to the treatment. An increased loss of weight indicates the necessity for rest and decrease in the intensity, duration, or frequency of the treatment. Loss of appetite and of strength indicates the necessity for the adoption of the same measures. Fever interdicts short cold applications, and requires the application of prolonged tepid measures.

7. An aggravation of any of the patient's symptoms indicates a necessity for the modification of the treatment.

8. By the employment of these general principles, one may confidently expect to secure some degree of alleviation of all the symptoms even in the worst cases; in the average case, great improvement and a lengthening of life amounting to many months and sometimes several years; and, in favorable cases, suppression of the fever and the night-sweats, improvement in appetite and weight, and decided gradual lessening and final disappearance of the cough and expectoration, restoration of strength and general vigor, and, finally, disappearance of the bacilli and complete suppression of all symptoms.

The patient should continue the treatment in a modified way after the disappearance of all the symptoms, not only for a few weeks, but for months,

even years. The habitual employment of the daily cold bath may be regarded as one of the best of all safeguards for persons who have been cured of the disease by hygienic measures.

As regards drugs, H. L. Shively<sup>1</sup> thinks the best routine treatment is the administration of creasote or some of its derivatives with codliver-oil and some preparation of malt. During the hot weather of the summer months the hypophosphites may be advantageously substituted for codliver-oil for a time. When it is well borne the pure oil may be taken. The amount of creasote given daily is from 24 to 60 minims, preferably in the form of an enteric salol or keratin-coated pill of 3 to 5 minims each, which is not dissolved until it reaches the intestines, thus avoiding the gastric disturbances so often occasioned by the drug. It may also be given with glycerin and whisky, in emulsion or shaken up with milk. Sometimes guaiacol or creasote carbonate or thiocol, which is freely soluble, agree better with the stomach. Ichthyol has been tried in a series of 60 cases, 10 minims being given every four hours. Of these cases 29 reported regularly for treatment and of this number 25 were much improved, gaining in weight and the temperature diminishing, with a corresponding improvement in all subjective symptoms. The average gain in weight was  $4\frac{1}{2}$  pounds, and the highest observed was 10 pounds. In 5 cases it was necessary to discontinue the drug on account of the eructations and nausea produced.

When the progress of the disease has been rapid, the administration of opium in small doses for a short time is often very satisfactory in its results. Besides its effects in improving cough and arresting hæmoptysis when present, it

appears to exert a decided tonic effect. It should be given with caution. The old combination of opium with quinine and digitalis—the Niemeyer pill—is a valuable one. For neuralgic pains, a small cantharidal blister may be applied and the chest rubbed with the following liniment:—

R Menthol, 3 drachms.  
Chloroform, 3 drachms.  
Chloral,  $\frac{1}{2}$  ounce.  
Camphor, 3 drachms.  
Alcohol, enough to make 4 ounces.

For night-sweats, the afternoon bath and friction, or the administration of atropine or agaricin, are usually efficient. In some persistent cases potassium tellurate in daily doses of  $\frac{1}{2}$  grain at night will relieve when other drugs fail. For blood-spitting and hæmorrhages, opium and rest, with food compresses to the chest, are employed. When sudden and profuse, a full hypodermic injection of morphine should be given. When the appetite is poor, bitter tonics, such as gentian, amaro, and nux vomica or strychnine are useful. Iron in any form is of very doubtful value in the anæmic accompanying an active tubercular process. When there are high afternoon or evening temperatures, the temporary administration of antipyretics—some form of phenacetin or acetanilid early in the afternoon—are sometimes useful, but generally the fever can be controlled by baths and other treatment.

For irritating, cretaceous cough, accompanied by expectoration brown in colour to sanguinolent is salutary, and, indeed, it is in all cases of symptomatic cough. It is also useful in relieving dyspnea and rheumatisms. When the

<sup>1</sup> Phila. Med. Jour., Dec. 1, 1886.



sputum is scanty and tenacious the administration of potassium iodide will promote freer secretion, diminish the severity of the cough, and add to the comfort of the patient.

C. A. Penrose<sup>2</sup> thinks inhalation methods are the rational means for combating pulmonary affections. Internal medication should be used as an accessory treatment, as, for instance, a sedative mixture to relieve excessive coughing, etc. Diet is not considered in this category. Change of climate, mountain-air, etc.—in reality, inhalation treatments—are all very well for those who can afford them, but what can be done for the masses to whom this is an impossibility? Because many have found inhalations of various kinds of little value in tuberculosis, there is yet no reason to suppose the best treatment will not be found along these lines. The good effects of oxygen in pulmonary disorders are raised to a maximum when combined with the heated vapors

of the following inhalation mixture: At the start a formula—creasote (beech-wood), olei terebinthinæ, of each, 4 drachms; tr. benzoini co., 3 ounces—is used (1 drachm of this mixture being placed in a pint of hot water). As the patient becomes more accustomed to the fumes, *i. e.*, does not cough or choke during inhalation, — gradually more of the creasote and oil of turpentine is added till a mixture of equal parts of each is obtained: Creasote (beech-wood), olei terebinthinæ, tr. benzoini co., of each, 1 ounce.

Inhalations, to be effective, should be systematic and of sufficient duration, ten to fifteen minutes at least. Indispensable adjuncts are breathing exercises and general gymnastic work. No physician can hope to have success in pulmonary diseases unless he makes a thorough study of chest-development, calisthenics, and other forms of exercise.

<sup>2</sup> Johns Hopkins Hosp. Bull., Nov., 1900.

## Cyclopædia of Current Literature.

### ADENOID GROWTHS.

**Etiology.**—In children of certain types there is a peculiar tendency to hypertrophy of the glandular structures that does not exist in other children. In most of these cases, upon careful examination into the family history, one will find in the parents, or in the more remote grandparents, certain conditions which have made their impression upon the life of the individual affected, probably being the last hereditary evidence of the vice. This condition may be syphilitic, a tubercular evidence, or the child itself or one of the parents may be the result of an ill-sorted mar-

riage or a product of a conception in which one or both of the parents were below par at the time of the conception. C. W. Richardson (*Laryngoscope*, Nov., 1900).

### APPARENT TUMORS OF THE ABDOMEN.

**Diagnosis.**—Out of 6045 patients examined there were 42 cases of apparent tumor, 8 occurring in men and 34 in women. In the cases noted there was apparently a tumor in the upper half of the abdomen, which could easily have been mistaken for a neoplasm. The apparent tumor may be produced: (1) by

a prolapse of the left lobe of the liver; (2) by exposure and thickening of the abdominal aorta; (3) by an hypertrophic condition of parts of the abdominal muscles; (4) by adhesions (?) around the small curvature of the stomach.

The left lobe of the liver may be the cause of the apparent tumor when it is situated in the median line directly under the ensiform process. Frequently one will get above the resistance, especially at the ensiform process, instead of liver-dullness, a more tympanitic sound on percussion. The swelling in these cases is of considerable dimensions (size of a fist).

If the apparent tumor is caused by the aorta, it usually lies deep in the abdominal cavity, close to the spinal column, has an elongated shape, and pulsates strongly. The resistance is usually one to two thumbs in diameter and about two inches in length. Such a tumor is often mistaken for an aneurism.

The abdominal muscles are probably the cause of the tumor if it lies superficially and can be palpated to one side, either right or left, of the linea alba. The resistance usually runs horizontally, and measures about one to one and a half inches in breadth by two to three inches in length; its surface is not globular like in tumors caused by the liver, but more flat, although it may be slightly rounded at the sides.

Adhesion of the stomach is hard to determine with certainty. The resistance felt is rather insignificant, small, lying generally in the smaller curvature of the stomach toward the pylorus, and does not show the characteristic distinctions of the three other groups. Whether the tumor belongs to one or other of the four groups is of less im-

portance than the decision of the question whether, in a given case, one has to deal with a real tumor (neoplasm) or only with an apparent tumor.

In apparent tumors the swelling presents a more or less smooth surface; in all events, there are no distinct nodules. The tumor is not always felt with the same degree of distinctness, and sometimes may escape palpation altogether. The tumor occupies the position described above, and a high degree of enteroptosis is usually associated with it. As further aids to diagnosis one has the course of the disease, which usually extends over years; the age (it may occur from the time of adolescence to old age); and the malnutrition, which, generally, is not of recent date, but has lasted for a long time. If all these points are present together, the distinction from a real, malignant neoplasm is easy. Cases, however, occur in which the differential diagnosis is not so easy. In the first place, real neoplasms may at times present some of the characteristics of apparent tumors (*i.e.*, a smooth surface or an elongated shape, etc.); on the other hand, apparent tumors may simulate the characteristic appearance of carcinoma. Max Einhorn (*Med. Record*, Nov., 24, 1900).

## ASPHYXIA BY DROWNING.

**Treatment.**—The success of treatment depends upon an immediate action, so these points should be remembered:

1. Patient should not be carried all around town before trying to resuscitate him.

2. The body should be inverted, and head and face should be kept down so that the tongue will fall forward, per-

mitting the water to escape from the mouth.

3. Patient is to be taken to the nearest house, the clothing is to be removed, and warmth is to be applied with hot, wet, woolen blankets, and one is to keep at work until bodily heat is fully restored. Assistants should rub the body while the blankets are being changed.

4. Artificial respiration should be begun with head down and hips elevated.

5. Stimulants—as sulphate of strychnine, aromatic spirit of ammonia, and coffee—are to be given.

6. When respiration and circulation have commenced, one should lay the patient on his back, occasionally rolling him from one side to the other to lessen the danger of local congestions. E. H. Bayley (Northwestern Lancet, Oct. 1, 1900).

#### BLOOD-EXAMINATION FOR DIAGNOSTIC PURPOSES.

Diseases in which blood-examinations are an important aid to differential diagnosis are:—

1. Chlorosis from secondary anæmia. The differential diagnosis, by means of an examination of the blood, often presents great difficulty in these two diseases: for, while one is more likely to find normal erythrocytes among the small, paler ones of secondary anæmia, and although the hæmoglobin index is not so low as it is in chlorosis, still the only feature that one can depend on is the occurrence of a leucocytosis, which is pretty regular in symptomatic anæmia, but absent in chlorosis.

2. Chlorosis from pernicious anæmia. The reduction of red cells and hæmoglobin is rarely so great in the former as in the latter, and the degeneration of the erythrocytes is more severe in pernicious anæmia. The color index is less

than one in chlorosis and greater than one in pernicious anæmia. Myelocytes and megaloblasts are regular features in pernicious anæmia, but their occurrence in chlorosis is extremely rare.

3. Pernicious anæmia from the anæmia of malignant disease. From the anæmia of malignant disease, as well as those that follow syphilis, typhoid fever, and malaria of severe type, the following points serve to distinguish pernicious anæmia: The large number of megaloblasts; the greater size of the erythrocytes, and the 'color-index' greater than one; the absence of leucocytosis.

4. Leukæmia from Hodgkin's disease. In the latter disease the blood shows, at most, a secondary anæmia, which is easily distinguished from the blood of leukæmia.

5. Leukæmia from tumors of the spleen or kidneys.

6. Leukæmia from tubercular, syphilitic, or malignant adenitis. In Nos. 5 and 6 the blood-examinations of the affections contrasted with leukæmia do not show the changes of the blood of that disease.

7. Syphilitic from tubercular or malignant disease. As stated by Cabot, in adults a leucocytosis, marked by an increased percentage of young leucocytes and eosinophiles, points to a diagnosis of syphilis as against tubercular or malignant disease.

8. Typhoid fever from malaria. 9. Paroxysmal hæmoglobinuria from malaria. 10. Pneumonia from malaria. In Nos. 8, 9, and 10 finding the *Plasmodium malariae* settles the diagnosis.

11. Malignant liver disease from other liver disease. 12. Puerperal sepsis from puerperal mania. 13. Renal or cardiac from bronchial asthma. In regard to Nos. 11, 12, and 13, according



to the teachings of Neusser and his followers, an eosinophilia would point to the presence of the second as opposed to the first of the diseases in each couplet.

14. Hysteria and neurasthenia from many of the diseases which they simulate. The finding of normal blood where one could expect to encounter certain pathological changes serves readily to make the distinction here.

15. Gastric ulcer from gastric cancer. The occurrence of a digestive leucocytosis points to the former.

It is obvious what an aid may be rendered by blood-examination, in obscure abdominal cases, for the presence of a leucocytosis would point to: 16. Appendicitis as against typhoid. 17. Appendicitis as against intestinal, biliary, or renal colic, or floating kidney. 18. Peritonitis as against tubercular peritonitis. 19. Malignant disease of the liver as against catarrhal jaundice. 20. Perinephritic abscess as against cyst of the kidney.

In doubtful pelvic cases the absence of leucocytosis excludes the presence of pus or hæmorrhage, and, in general, the mere existence of a leucocytosis would suggest the first as opposed to the second of each of the following couplets: 21. Pneumonia and typhoid. 22. Pyæmia or septicæmia and typhoid. 23. Meningitis and typhoid. 24. Meningitis and brain-tumor, lead encephalopathy, diabetic coma, sun-stroke, narcotic or alcoholic intoxication (Cabot). 25. Pneumonia and uncomplicated grippe. 26. Scarletina and measles. 27. Empyema or pneumonia and serous pleurisy.

In the last disease, however, there is usually a mild leucocytosis during the febrile period, but it is not as great as that of the contrasted affections. An important point is an increase in the

leucocytosis as indicating a change from serous pleurisy to empyema. It must be kept in mind that serous pleurisy, as well as all other serous inflammations in children, causes such a high leucocytosis that this point cannot be depended on as a mark of differentiation between serous and purulent inflammations in them.

The same sign serves to differentiate: 28. Serous pericarditis from cardiac dilatation or hypertrophy. 29. Osteomyelitis from neuralgia or "growing pains." 30. Malignant from benign tumors. 31. Purulent from catarrhal otitis media; as well as all suppurative from non-suppurative processes. 32. Suppurative processes from tubercular processes. J. W. Brandeis (*Jour. Amer. Med. Assoc.*, Nov. 24, 1900).

### CIRRHOSIS OF THE LIVER. NATURE AND DISTRIBUTION OF THE NEW TISSUE IN.

The conclusions regarding the nature and distribution of the new tissue in cirrhosis of the liver are as follow:—

1. In all forms of cirrhosis the white fibrous tissue is increased.

2. Along with the increase of white fibrous tissue there is a new formation of elastic tissue. This new elastic tissue is derived from pre-existing tissue in the adventitia of blood-vessels and the hepatic capsules.

3. Both white fibrous tissue and elastic tissue, in all forms of cirrhosis, may penetrate into the lobules. This penetration takes place along the line of capillary walls or follows the architecture of the reticulum. The chief distinctions between the histology of atrophic and hypertrophic cirrhosis depends upon the degree of extra-lobular growth and the freedom with which the lobules are invaded. In hypertrophic

cirrhosis there would appear to be less interlobular growth and an earlier and finer intralobular growth.

4. The alterations in the reticulum, *per se*, consist, as far as can be made out at present, of hypertrophy rather than hyperplasia of the fibres. It is still uncertain whether any of the differential methods now in use suffice to distinguish between the reticulum and certain fibres derived from the white fibrous tissue of the periphery of the lobules. Simon Flexner (Univ. Med. Mag., Nov., 1900).

### DIABETES MELLITUS IN CHILDREN.

Diabetes occurs more frequently in children than is generally supposed.

Urinalysis is just as important an element in the scientific diagnosis of disease in children as it is in adults. It is to be regretted that the general practitioner rarely realizes this fact.

There is a possible etiological connection between peliosis rheumatica and diabetes. The pathogenesis of both conditions is so obscure, however, that speculation on this question can only point out a direction for further research. L. F. W. Haas (Jour. Amer. Med. Assoc., Nov. 17, 1900).

### EARS, OPERATIVE TREATMENT OF UGLY.

Flaring ears are corrected by excising a vertical ellipse of skin and fascia from the posterior surface of the auricle and the adjacent portion of the skull, and then cutting a vertical wedge-like strip from the exposed cartilaginous structure of the organ. Sutures are then employed to sew the auricle close to the skull. Bandages or spring pads are to be used until the union is sufficiently firm to prevent tearing of the scar-tissue by unexpected movements during

sleep. If a condition of gigantism co-exists with the flaring, the operation for reduction of the size of the auricle may be done at the same time. A similar method is to be employed in lap-ears, in which the auricle droops forward because of imperfect development of cartilage. The displaced organ should be sewed to the scalp in such a way as to neutralize the tendency to droop. It might be possible to stiffen the auricle by inserting a thin sheet of metal in the tissues. Perhaps such an implanted metallic strip could be bent, after it had become encysted, to resemble more closely the ridges and hollows. John B. Roberts (Med. News, Nov. 24, 1900).

### HEROIN HYDROCHLORIDE.

Heroin hydrochloride, a neutral salt of heroin, a new morphine derivative, is a white, odorless, crystalline powder of slightly-bitter taste, and freely soluble in water, acetic and dilute sulphuric acids. Its action in relieving cough and dyspnoea is prompt; and its ready solubility renders it peculiarly suited for hypodermic administration, especially where immediate results are required.

Respiration is profoundly influenced in all cases. There is a decided diminution in the frequency of the respiratory movements, with a prolongation of the inspiration and an increase of the force of expiration. The elimination of bronchial secretion is promoted, thus aiding in the relief of dyspnoea. The pulse becomes slightly diminished in frequency and likewise somewhat fuller. In therapeutic doses there is no disturbance of the gastric functions. Except for a slight nausea noticed in one case, no ill effects were observed. Its action on the intestine seemed to be a slightly-constipating one.

The drug is well borne in both the young and the old, especially so in the former. As an anodyne in painful affections, it ranks much below either morphine or codeine.

The after-effects personally noticed, have been a slight nausea in one case, dizziness in two cases, languidness in two cases, and a pharyngeal irritation, with constant desire to clear the throat. None of these sequelæ was of a serious nature.

In cases marked by a diminution in the expectoration, the drug may, with advantage, be combined with either the iodide of potash, ipecac, terpin hydrate, or squill. In cases attended with constipation, the addition of cascara sagrada is effective.

The average dosage by mouth is from  $\frac{1}{24}$  to  $\frac{1}{6}$  grain, three times daily. It is preferably given after meals, especially when there is a diminution of gastric secretion, in which condition, if dissolved in an acid medium and taken after the ingestion of food, it fulfills all requirements. It may be given in powder, pill, tablet, or solution. After the prolonged use of the drug, as in tuberculosis, larger doses are required. For prompt effect it is employed by hypodermic injection. Four to 8 minims of a 2-per-cent. solution represent  $\frac{1}{12}$  to  $\frac{1}{6}$  grain, the smaller dose being the average amount necessary. The incompatibilities to its use internally are alkalies and apomorphine. Benno Hyams (Med. News, Dec. 1, 1900).

## ICHTHOFORM.

Ichthoform is a compound of ichthyol and formaldehyde. It occurs as a blackish-brown, amorphous, almost odorless and tasteless powder; practically insoluble in the usual solvents. The administration of ichthoform diminishes

intestinal putrefaction and the excretion of oxybutyphonic acid. Accordingly, therapeutic employment of ichthoform is indicated in cases where there is an increased elimination of ethyl-sulphuric acid: in toxic intestinal fermentation, stasis of the intestinal contents, intussusception, diffuse peritonitis with atony of the intestine, or in tuberculous enteritis.

Personal investigations have shown that ichthoform is a relatively non-toxic substance, which surpasses iodoform and analogous antiseptics in disinfectant power, and is an intestinal antiseptic of the first order, while being wholly—or practically so—odorless and tasteless. Aufrecht (Merek's Archives, Nov., 1900).

## IRRITABLE BLADDER IN THE FEMALE.

**Treatment.**—Treatment of irritable bladder in the female resolves itself into the treatment of the vesical changes and that of the underlying causes. Vesical changes must be treated, malpositions corrected, an attempt made to bring about the resorption of pelvic exudates, and to stretch old adhesions by massage; regular evacuations from the bowel induced, preferably by enemas, as cathartics tend to increase the vesical tenesmus; vulvar, vaginal, uterine, tubal, or ovarian abscesses and inflammations appropriately treated. With regard to diet, it is necessary only to forbid alcoholic beverages.

Unaltered exudates and calculi must be removed with the scissors and the base cauterized. Ulcers are best treated in the submucous tube by saccharification with nitrate of silver. Catarrhal urethritis is treated by the direct application of astringent solutions;



gonorrhœal by applications of protargol, either in glycerin or water solution.

Vesical hyperæmia is locally treated by irrigations with a 1-per-cent. solution of boric acid alone, or this is followed by the instillation of nitrate-of-silver solutions ( $\frac{1}{4}$  to  $\frac{1}{2}$  per cent.). Cystitis is similarly treated, except that the solution of silver is stronger, the strength varying with the severity of the inflammation and the susceptibility of the patient from  $\frac{1}{4}$  to 2 per cent. It is seldom necessary, however, to exceed 1 per cent. In addition, should there be more than isolated bacteria in the urine, one may give moderate doses of salol, boric acid, or urotropin.

PERICYSTITIS.—Massage is employed. After preliminary irrigation of the cavity, fluid is slowly injected by means of the large, graduated Janet hand-syringe. Boric-acid solution at or near body-temperature is employed. As soon as the patient complains of a sensation of pain or tenesmus, which usually accompanies a distinct sense of resistance to injection, a short pause is made, when the symptoms usually quickly pass over. Then an additional quantity is gently injected. This goes on until the quantity is sufficiently great to cause the pressure or tenesmus to be marked or continuous. When the maximum quantity is reached the fluid is retained for about three minutes and then allowed to flow off until only a small quantity remains. This residue is left. The quantity is gradually increased as it becomes possible, and the sittings are repeated every second day. This method, termed massage, or distension of the bladder, has given excellent results with regard to the symptoms of vesical hyperæsthesia.

PREGNANCY.—This requires local treatment of the complicating hyper-

æmia or cystitis only in the early months. Distension of the bladder is advised against.

CYSTOCELE, MALPOSITIONS AND DISEASES OF THE UTERUS AND ADNEXA.—Except for the local treatment of the bladder-changes which may occur here, the treatment of these conditions belongs to the gynæcologist.

CARCINOMA.—This is usually inoperable; consequently its treatment must be purely symptomatic. Local treatment is apt only to increase the sufferings of the patient.

TUBERCULOSIS.—Aside from the treatment of the general condition, which must be the first consideration, local treatment, varying from injections of nitrate-of-silver solution or iodoform emulsion to sectio alta with subsequent curettage, excision, or cauterization of the affected mucous membrane, has been advised (Güterbock); where the bladder symptoms have not gone beyond hyperæsthesia, nitrate of silver might be of use. Frederic Bierhoff (*Amer. Jour. of Med. Sci.*, Dec., 1900).

## LAVAGE, THE USE AND ABUSE OF.

Lavage is personally employed, first, in cases of atonic dilatation, where the retention is extreme; secondly, in cases of organic pyloric obstruction; thirdly, in cases of gastric neurasthenia and in certain cases of hysteria; fourthly, in some cases of chronic gastritis with subacidity. This limits its practice to a small number of cases only.

In personal earlier practice lavage was employed more frequently; but, as good results may be obtained with other means, more can be done with a carefully-regulated diet than with lavage; with massage, with physical culture, out-door life, mental occupation, cold baths, or hydropathic treatment in gen-

eral, than with local gastric management. The most useful mechanical gastric management in selected cases is a properly-fitting abdominal belt. The truth of the matter is that most so-called gastric cases are not of stomach origin. The nervous system, the blood, the general and local musculature are at fault. Hence more gastric cases are cured by iron than by pepsin; by nuxvomica than by specific aids to digestion. Lavage is not essential except in a few cases. J. H. Musser (*Therap. Gaz.*, Nov. 15, 1900).

### LIVING ANIMAL ORGANISMS IN THE EAR.

**Treatment.** In some instances merely holding a light in front of the external auditory meatus has served to attract the insect and cause it to make its way out, but the quickest way to produce relief is to flood the external auditory canal with warm water or oil. If a syringe is not available a teaspoon will answer the purpose if the patient will incline his head so as to allow the fluid to run in. C. H. Burnett recommends the use of chloroform through the external auditory meatus. Dr. Blake removed the maggots from a suppurating ear by holding a sponge saturated with ether at the external auditory meatus. This caused all the maggots to wriggle out from the cavity. As a rule, however, any animal within the ear may be killed and its remains removed by proper syringing with a rather strong solution of carbolic acid in warm water. Whatever method is adopted the physician should be able absolutely to assure himself that he has left no insect, dead or alive, within the ear when he has finished his treatment. Sometimes examination with the speculum has failed to reveal the presence of

anything abnormal within the ear; and yet subsequent events have proved this supposition wrong. Politzer mentions a case occurring in Drs. Pollak and Hembach in which examination failed to detect anything in the external auditory canal or on the membrane tympani, and yet syringing removed a small spider. Also a case of his own in which the patient attributed a sensation of irritation and pain to his ear to the entrance of an insect. After careful search with the speculum nothing was found, but on syringing the ear, a small, gray bug was washed out. In those cases where the animal is dead and the removal of its body the object of treatment, the difficulty is not so great. Removal is accomplished by the means ordinarily employed for the removal of foreign bodies from the ear: syringing, forceps, or the various extractors devised for that purpose. W. H. Packard (*Carolina Med. Jour.*, Nov., 1900).

### MEMBRANOUS ANGINAS. THREE VARIETIES OF.

The following conclusions may be drawn from several cases noted:—

1. The streptococcus pyogenes and the micrococcus of sputum septicæmia can produce membranous anginas, accompanied by physical destruction sufficient to result in death.

2. The coccus albicans produces pseudomembranous exudates easily mistaken for a Klebs-Loeffler inflammation.

3. The only positive means of determining a Klebs-Loeffler infection is by microscopical methods.

4. From the sanitary standpoint, as regards quarantine, animals due to the streptococcus pyogenes, micrococcus of sputum septicæmia, and the coccus albicans require little consideration. W.

G. Bissell (Buffalo Med. Jour., Dec., 1900).

### NERVOUS DISEASES. EXTRACT OF TESTICLE IN THE TREATMENT OF.

A tabetic patient with marked ataxia, lancinating pains, lost reflexes, etc., started on injections of extract of testicle (Morgan's) at 5 minims, and increased gradually to 30 minims, will manifest a certain amount of stimulation; the tone of the pulse may be better; if the disease be not too far advanced, the sexual hope of the patient may be resurrected by recurrent erections and seminal emissions, and the patient impressed by the fact that here at last, after years of medication, is distinct evidence that he is improving, and on the way to health again. By suggestion, he may lose the pains, etc., but the best one may hope by pure medication in these cases is not a cure, but merely an amelioration, more or less distinct. As a matter of fact, this method of treatment is never personally employed alone, but has always associated with it, as with other medicines, the Fraenkel exercise method of treatment. This is a series of exercises in which the patient, by repeated more or less co-ordinated movements, is taught to overcome the ataxia by substituting for the muscular sense, or sense of position, which is deranged or lost, the sense of vision. This treatment is very successful in overcoming the ataxia, and is materially aided by general massage, nutritious diet, and tonic injections of the extract of testicle, strychnine, etc. The increase in weight and nutrition which follows such a course of treatment assists materially in overcoming the lancinating pains and making them more bearable.

### NEURASTHENIA, JUVENILE.

Sexual neurasthenia, especially that form resulting from masturbation, is not materially benefited by this treatment. There would seem to be here an indication from this method of treatment; but the sexual excitation resulting from this extract has a deleterious rather than a beneficial effect. The only conclusions to be drawn from personal experience with this mode of treatment are that in tabes and some other parasymphilitic affections, where the testicular function is deranged, it acts as an excellent tonic, and in association with exercises, etc., is attended with beneficial results. D. J. McCarthy (Inter. Med. Mag., Nov., 1900).

### NEURASTHENIA, JUVENILE.

**Etiology.**—The majority of adult cases of hysteria and neurasthenia have their insidious beginning in childhood. In many cases heredity is a factor, both directly and indirectly. By indirectly is meant this: Neurotic parents, being in a constant state of irritability themselves, scold and nag their children incessantly, yet have not the will-power to enforce real discipline, thus destroying what little mental equilibrium their unfortunate offspring may have been born with.

When school-children "break down," overstudy is the commonly accepted cause. Yet it is the real factor in very few cases. German children study harder than ours, yet they collapse much less often, because their home-life is more sedate and precocity is suppressed, not encouraged, as is too often the case in American homes.

Lack of exercise is another prolific cause of neurotic trouble among children. Other causes are poor food, anæmia, infectious fevers, etc. C. L. de



Merritt (N. Y. Med. Jour., June 16, 1900).

**Treatment.**—In juvenile hysteria and neurasthenia the physician is cautioned to first look to the parents, as it may be necessary to treat them as a preliminary. If they are neurotic, irritable, or hypochondriacal, one must get them into some sort of trim before hoping to secure a proper regimen for the child. By explaining how their defects react upon their children, they are furnished with the greatest incentive to overcome their own deficiencies.

Drugs must play a secondary part, yet tonics and hæmic reconstructives are generally indicated. Sedative drugs, like the bromides and hyoscyamus, while not called for as routine practice, are helpful in tiding the patients over periods of unusual irritability. Bathing is a useful adjuvant, particularly the warm sponge-bath at bed-time, followed, when indicated, by a small dose of hyoscyamus.

If the child is attending school, the first impulse is to order a cessation of study. In aggravated cases this is the proper course; in those of slighter degree, the wisdom of it is doubted. To withdraw a child from school often means to deprive it of the companionship of other children and throw it into contact with adults exclusively. This, with the relaxation of mental discipline, may have a most unfortunate effect and produce, instead of a cure, a young hypochondriac. C. L. de Merritt (N. Y. Med. Jour., June 16, 1900).

### OVARIAN ORGANO-THERAPY.

For the past three years in selected cases, in private and dispensary practice, the effort has been made to obtain some definite results from the use of a carefully-prepared ovarian extract in three

classes of cases: (1) those suffering from amenorrhœa, dysmenorrhœa, and other forms of pelvic disease; (2) those suffering from symptoms following the removal of the uterine appendages, for the relief of the vasomotor changes, the flushes and cardiac nervousness which, with indescribable depression, are so often produced by the premature menopause; (3) the disturbances associated with the natural menopause.

It is felt that the following conclusions are justified: 1. The employment of ovarian extract is practically harmless: no untoward effects beyond slight nausea have been noted even when full doses have been administered. 2. In the treatment of amenorrhœa and dysmenorrhœa no good results were secured (although in some cases of the amenorrhœa of obesity remarkable results have been obtained by the use of the thyroid extract). 3. The best results were seen in the second class of cases, for the relief of symptoms of artificial menopause, where in a few instances the congestive and morbid symptoms were apparently ameliorated. 4. No appreciable result was noticed in the use of ovarin in the natural menopause. 5. No definite or exact reliance can be placed upon the drug, as it often proves absolutely valueless where most positively indicated. 6. It is extremely problematic whether, in those cases in which relief was noted, the effect was not due to mental suggestion rather than to any direct physiological action of the drug. The neurotic type of individual demanding this treatment will often be relieved by any simple remedy. 7. In those instances in which effects were noted, increase in dosage seemed to have little influence in maintaining the effect or preventing the patient becoming accustomed to its use. 8. In

conclusion, the theory which suggests the use of this extract seems to be at fault, and the administration of ovarin or ovarian extract is based upon a wrong assumption as to the function of the ovary. In organotherapy the best results have been obtained from the use of the thyroid and adrenal glands, and the ovary in function is in no sense analogous to these organs. Its principal function is ovulation, and, if any peculiar product is coincidentally manufactured, the isolation of this product has not yet been accomplished. Wilmer Krusen (*Inter. Med. Mag.*, Nov., 1900).

#### PELVIC INFLAMMATORY MASSES REMOVED BY THE ABDOMEN AFTER BISECTION OF THE UTERUS.

The steps of the operation are these: If the uterus is buried out of view, the bladder is first separated from the rectum and the fundus found. Then, if there are any large abscesses, adherent cysts, or hæmatomata, they are evacuated by aspiration or by puncture. The rest of the abdominal cavity is then well packed off from the pelvis. The right and left cornua uteri are each seized by a pair of stout museau forceps and lifted up; the uterus is now incised in the medial line in an antero-posterior direction, and, as the uterus is bisected, its cornua are pulled up and drawn apart. With a third pair of forceps the uterus is grasped on one side of its cut surface as far down in the angle as possible, including both anterior and posterior walls. The museau forceps of the same side are then released and used for grasping the corresponding point on the opposite cut surface, after which the remaining museau forceps are removed. In this way two forceps are in constant use at the lowest point. They are com-

monly applied three or four times in all. As the uterus is pulled up the halves become everted and it is bisected farther down into the cervix. If the operator prefers to do a pan-hysterectomy, the bisection is carried all the way down into the vagina. The uterine canal must be followed in the bisection; if necessary, using a grooved director to keep it in view. The museau forceps are now made to grasp the uterus well down in the cervical portion, if it is to be a supravaginal amputation, and the cervix is bisected on one side. As soon as it is divided and the uterine and vaginal ends begin to pull apart, the under surface of the uterine end is caught with a pair of forceps and pulled up, and the uterine vessels, which can now be plainly seen, are clamped or tied. As the uterus is pulled still farther up, the round ligament is exposed and clamped; then finally a clamp is applied between the cornu of the bisected uterus and the tubo-ovarian mass, and one-half of the uterus is removed. The opposite half of the uterus is also taken away in the same manner. The pelvis now contains nothing but rectum and bladder, with right and left tubo-ovarian masses plastered to the sides of the pelvis and the broad ligaments, affording abundant room for investigation of their attachments, as well as for deliberate and skillful dissection. The wide exposure of the cellular area over the inferior median and anterior surfaces of the masses offers the best possible avenue for beginning their detachment and enucleation. The operator will sometimes find on completing the bisection of the uterus that he can just as well take out each tube and ovary together with its corresponding half of the uterus, reserving for the still more difficult cases, or for a most difficult

side, the separate enucleation of the tube and ovary after removal of the uterus. The operation just described is not recommended to a beginner in surgery. The surgeon who undertakes it must be calm, deliberate, and must bear in mind at each step the anatomical relations of the structures. H. A. Kelly (Med. News, Nov. 24, 1900).

### PELVIC MASSAGE.

The patient is placed upon a lounge or table with her clothing loosened, the limbs flexed, and the head and shoulders raised so as to relax the abdominal muscles. The operator sits or stands at her feet, introduces one or two fingers of one hand into the vagina, with the elbow of that arm supported by his knee, while the other hand is placed over the abdomen. The fingers of the internal hand are kept fixed firmly against the uterus, while the external hand makes a rotary motion upon the abdomen over the uterus, gradually increasing the force until the latter is outlined. The pressure is made upon its sides and posterior surface, now with the points of all the fingers, now with one, until the entire upper surface of the uterus is manipulated. When the organ is free, it can be readily projected against the abdominal wall, and in this way its entire surface manipulated. Its circulation is markedly influenced and the absorption of exudation expedited. In massage directed to adherent ovaries, the rotary motion is over so slight an arc as to appear a mere trembling of the fingers. Frequently pressure is best made with the point of one finger.

The *séances* should last from five to ten minutes. They should be given daily, during the menstrual flow as well as in the intervals. In the beginning

the manipulation should be carefully practiced, avoiding sudden or violent motions. With the confidence and co-operation of the patient gained, the force can be increased until the fingers dip deeply into the pelvis, and in conjunction with the internal fingers forcibly stretch and even break adhesions.

Pelvic massage can be employed with advantage in ovarian displacements, either anterior, posterior, or lateral, simple or complicated; in chronic inflammation of the uterus, tubes, and ovaries; in subacute and chronic peritonitis or cellulitis; for the removal of pelvic exudates and unfortunate adhesions after pelvic operations; this treatment will often relieve the patient from what would otherwise be unfortunate and crippling adhesions. The massage is contra-indicated in all cases in which it is evident that recent pus collections are present; in suspected ectopic gestation or in recent internal hæmorrhage; in ovarian cysts, unless very small. *The procedure is absolutely criminal in every case of suspected malignant disease.* Particular care should be practiced when there is suspicion of an unruptured ectopic gestation. The presence of pus need not be considered a bar to massage when the condition has existed for some time.

Massage has been condemned as being a form of masturbation of a woman by a man, but those who make such an assertion are ignorant of its practice.

While it is true that the mere touch of the finger to the genital tract of an erotic woman may cause an orgasm, yet the practice of massage is too painful to be at all pleasurable, and where there is a tendency to orgasm it may be overcome by an increase of the pressure. The internal fingers are held quiescent, while the manipulation is mainly exter-



cised by the external hand, which is not in relation with the specially-sensitive organs.

The progress of the recovery can be enhanced by the introduction of a tampon of cotton and gauze anointed with an ointment (1 to 5) of ichthyol in lanolin. E. E. Montgomery (*Therap. Gaz.*, Nov. 15, 1900).

## SPRAINS.

**Treatment.**—Pressure is usually applied by bandage, but there is an intelligent and a non-intelligent method. If an ordinary bandage merely be bound round the joint, the chief part of the pressure is made on the prominence of bones at the joint, but pressure must be made so that it is brought to bear evenly on all parts of the capsule which can be got at. For example, in the case of the ankle-joint a bandage around the ankle merely presses on the external and internal malleoli and on the tendo Achillis behind. But, now, if three or four layers of cotton-wool be placed on the joint with a little additional amount in front of and behind the internal and external malleoli and the bandage be then applied, the cotton-wool sinks into the various hollows and effectually compresses the distended capsule. So that if the sprain be seen within the first two or three hours of its occurrence the following treatment should be carried out. Apply cold vigorously for from about ten minutes to a quarter of an hour, either by pouring cold water over the joint or by the application of ice or spirit lotion and then wrap the joint round with lint or other suitable material soaked in cold water or spirit lotion, put on the cotton-wool in the manner just indicated and place the joint in such a position that there is least po-

## SPRAINS.

tential cavity for effusion to be poured into and firmly bandage the part.

During the period of quiescence the same line of treatment should be adopted. But when the second attack of pain ensues and it is becoming more severe, the application of cold is not of much value. The right thing to do is to apply heat. The joint should be kept at rest and pressure should be maintained on it by cotton-wool and a bandage, since well-directed pressure also assists absorption.

As a rule, most joints are rested too long, and at an average of three or four days after the swelling has subsided movement of the joint should be commenced. The direction of the movement is a most important point. One can ascertain by the position of the tender spots and by the distribution of extravasated blood which part of the joint has been most injured. Take, for example, injury to the external lateral ligament of the ankle; no one would be so unwise as to invert the ankle as a part of the early movements, but would flex and extend and carefully evert it so that while moving the joint he would be in no way interfering with the healing of strained and of ruptured ligaments. If the patient have a tuberculous tendency or a gouty or a rheumatic-gouty history he should rest much longer than should a patient with an ordinary history.

When the amount of swelling is very considerable, hot applications and rest are not sufficient. The best thing is properly-applied friction. In rubbing the parts it is always advisable to begin to rub that part of the swelling which is most distant from the joint. Together with rubbing, frequent application of hot water and gentle movement should be carried out. If after ten days' treat-

ment on these lines the thickening about the joint have not disappeared and there still remain tender spots on moving the articulation and on pressure, counter-irritation by blisters is called for. As a rule, one may say that in a fortnight or three weeks with the above treatment a severe sprain will cease to give rise to trouble and inconvenience and the patient can go about with comfort. Sometimes, however, it happens that, on the patient attempting to use the joint, acute pain sets in. The treatment is absolute and complete rest, which is easily effected by means of a plaster-of-Paris application, and from four to six weeks is not too long a period to keep such a joint entirely at rest. A. H. Tubby (*Lancet*, Nov. 17, 1900).

#### SUPRARENAL CAPSULE IN DISEASES OF THE LOWER AIR-PASSAGES.

The diseases in which the suprarenal powder has been personally administered are: acute tracheo-bronchitis, chronic bronchitis, bronchiectasis, congestion and œdema of the lungs, hæmoptysis, and pulmonary tuberculosis.

The suprarenal powder was always administered in the form of 3-grain capsules, placed in the mouth, thoroughly chewed without water, and swallowed in a few moments. The action of the powder administered in this way became apparent in three to ten minutes. The capsule of suprarenal powder should not be swallowed whole with water, because the juices of the stomach may destroy it.

Acute tracheo-bronchitis: In 33 cases the suprarenal powder lessened the frequency and severity of the cough. In some cases the cough entirely disappeared or remained absent from ten minutes to nine hours. The expectora-

tion was decreased in amount, the mucous râles in the bronchi were diminished, and, in those cases in which the attack was of a mild type, the râles entirely disappeared. The symptoms of tightness, rawness, pulsation, and dryness in the upper portion of the chest and throat were more or less temporarily relieved. The respiration became easier, and the patients stated that they could expand their chests more fully than before the administration of the suprarenal powder.

When the suprarenal powder was administered at the onset of a bronchitis, 3 grains every one or two hours, with no other treatment, a cure was usually obtained in twenty-four hours. The acute rhinitis was also promptly relieved by the administration of the suprarenal powder.

Chronic bronchitis: Twelve cases of chronic bronchitis were temporarily relieved by the administration of the suprarenal powder. The benefit was apparent within fifteen minutes after the first dose.

Bronchiectasis: The expectoration, when profuse, was markedly diminished by the suprarenal powder. The cough was lessened, and the patients felt much relieved.

Bronchial asthma: When the paroxysms of asthma are due solely to nervous influences, the suprarenal powder has no power to control the attack. But, if the attack is accompanied with hyperæmia of the bronchial mucous membrane, the suprarenal powder is usually beneficial.

Congestion of the lungs: When the suprarenal powder was administered the râles disappeared within fifteen minutes. The slight dullness over the posterior and lower portion of the lungs also disappeared. The moist cough and

watery expectoration which were present in many of the cases were promptly checked. In a few the râles remained absent.

**Edema of the lungs:** When the suprarenal powder was administered the râles markedly decreased in number, and the dullness became diminished with the rapid absorption of the fluid. It should be administered frequently.

**Hæmoptysis:** In 16 cases of hæmoptysis from various causes, the suprarenal powder, chewed, stopped the bleeding from the lungs in less than half an hour. In 6 cases the hæmorrhage stopped in five minutes. The suprarenal powder was more efficient than other remedies employed.

**Pulmonary tuberculosis:** In 8 cases of pulmonary tuberculosis the expectoration and the cough were diminished by the suprarenal powder within fifteen minutes. The patients breathed more easily and felt brighter. Hæmoptysis, when present, was controlled. Some of the larger râles and many of the smaller ones disappeared. Samuel Floersheim (Med. Record, Nov. 17, 1900).

## SYPHILIS.

**Treatment.**—In the treatment of syphilis by mouth the bichloride, biniodide, or protiodide of mercury is preferred. At first the mercury should be given alone, and it should be pushed to the verge of tolerance; this will be, for most persons, of the protiodide something less than 2 grains daily in divided doses; of the biniodide a daily total of not more than  $\frac{2}{3}$  grain; of the hydrargyrum cum crêta a daily total of about 10 grains. These totals must be reached by a gradually-increasing dosage, and the condition of gums and the bowels carefully watched from day to

day. After the patient has taken mercury about ten days it is time to begin the administration of iodides. The initial dosage need not exceed 10 grains three times daily; if the eruptive manifestations begin to disappear promptly with this dosage, it need not be increased. If, however, after three days there is no modification of eruption, or if it continues to increase and mucous patches begin to develop, the iodide dose should be rapidly increased at the rate of 5 grains per dose each day until the disease manifestations begin to abate. There are not many cases that require over 90 grains per day; but there are some that demand very greatly superior dosage. The maximum dosage of iodide of potassium personally employed was 960 grains daily for a period of over a month. Other reporters have often exceeded this dosage in desperate cases. The index of a sufficient dose is the beginning of clinical improvement, and so long as improvement continues and nutrition improves the maximum dosage need not be modified until the active clinical signs have disappeared. W. P. Munn (Col. Med. Jour., Aug., 1900).

**Justus Test in.**—As regards the value of the Justus test, personal investigations in twenty-nine cases have led to these conclusions:—

1. That in the diagnosis of doubtful ulcers it is of no value.

2. That it seems to occur in a certain proportion of cases of acute secondary syphilis, where it appears to be a symptom of the disease and can in no sense be considered a true test, as the diagnosis in such cases is already complete.

3. That as a test it is unreliable, occurring, as it does, in conditions other than syphilis. H. M. Christian and O. H. Foerster (Univ. Med. Mag., Nov., 1900).



## TUBERCULOSIS OF THE MIDDLE EAR.

**Diagnosis.**—The diagnosis of aural tuberculosis is of serious import, as upon the early recognition of the disease will depend, to a great extent, the future issue of the case. It seems best to study this aspect of the subject under three headings: First, the recognition of aural tuberculosis in a subject without general evidences of the disease, but in whom, for obvious causes, the middle-ear affection is suspected to be of a tuberculous nature; secondly, the recognition in an individual suffering from pulmonary tuberculosis of involvement of the middle ear, and, under this same heading, the diagnosis of the cause of an otorrhœa existing before the pulmonary affection developed. In the third class one has the differential diagnosis of tuberculous otorrhœa from that occurring in conjunction with syphilis, lupus, diabetes, and new growths.

In the third class of patients there is usually a slight watery discharge from one ear, which has existed for several months, appearing without the knowledge of the patient, and at no time has there been the slightest evidence of pain. Physical examination of the respiratory organs shows nothing suspicious; the patient may be of good *physique*, but usually is somewhat under weight and anæmic, and, in addition, he will give a history of pulmonary tuberculosis in near or distant blood relatives. The hearing is but slightly impaired and, on examination, the membrana tympani will present several small perforations, round in contour, with the edges thick and everted, and, instead of the congested appearance seen in ordinary otorrhœa, the drum-membrane will be of a blue-white color, presenting somewhat the appearance of ground

glass, with the addition of an adenomatous element. Under these circumstances, the insidious development of the discharge and the absence of pain, a tuberculous etiology is suggested.

The crucial factor in the diagnosis of tuberculosis of the middle ear is the recognition of the tubercle bacilli in the aural discharge. As the bacilli are found more frequently in the residual pus in the tympanum than in the canal, it is essential that the material used for examination be obtained from the deepest part of the chamber. A negative diagnosis cannot be made by the absence of organisms in a single examination.

In the patient with pulmonary or other forms of tuberculosis, and with subsequent otorrhœa, the diagnosis is greatly facilitated. A difficulty, however, arises in cases of purulent otorrhœa with profuse discharge and extensive tissue-disintegration, in which general tuberculosis develops at a later stage. Under such conditions the characteristic local features are absent and pain may be present. The diagnosis in these cases is made by the general condition of the patient, the presence of laryngeal or naso-pharyngeal tuberculosis, and various local manifestations suggestive of this affection, such as the rapid development of facial paralysis, the intolerance of the middle ear to local applications, and, as suggested by Milligan, the enlargement of the parasympathetic ganglia.

The differential diagnosis from syphilis can be determined by the history of the case, the presence or absence of syphilitic stigmata elsewhere, the absence of the tubercle bacilli in the aural discharge, and the rapid disintegration and ulceration, not only of the middle ear, but also of the external canal in

the specific affection. Lupus involving the middle ear is rare. The tuberculous otorrhœa must sometimes be distinguished from that occurring during the course of diabetes. When granulation-tissue is abundant and extends into the auditory canal in tuberculous otorrhœa, the question will occasionally have to be determined as to its relation to other new formations. It is then necessary to remove some of the tissue for microscopical examination, and the presence or absence of the tubercle bacilli must also be determined. Seymour Oppenheimer (N. Y. Med. Jour., Nov. 24, 1900).

### TYPHOID FEVER.

**Diet.**—In the vast majority of cases of typhoid fever milk is the safest and most satisfactory diet. As to the quantity required, it may be put down for an adult at from 4 ounces as a minimum to 8 ounces as a maximum every two hours. If there is diarrhœa, the milk should be boiled or peptonized. If the stools contain fragments of undigested casein, the quantity of milk ingested is too large and must be reduced. Should the use of the smaller amount be followed by similar evidence of indigestion, dilution with water or carbonated water should be practiced, or peptonizing again employed. Rich milk should always be avoided.

The first condition which may demand a deviation from the milk diet is an inability of the patient to take milk, either because of its disagreeing with him or because of some insuperable prejudice against it.

A second effect of a milk diet which sometimes demands deviation from it is an increase in the tendency to constipation, which sometimes occurs in typhoid

fever and which, undoubtedly, milk favors. In such cases milk should not be boiled. The tendency may be further counteracted by the addition of buttermilk, of animal broths,—particularly chicken-broth,—or beef-juice and the various forms of peptonized foods, either liquid or reduced to the liquid form by the addition of hot water. Should evidences of inability to assimilate milk continue to present themselves after reducing the quantity to reasonable limits, there is no more satisfactory nourishment than albumin-water, which consists of the white of eggs mixed with water in varying proportions. The whites of two eggs to a pint of water may be considered an average proportion. A little lemon-juice—a fluidrachm or more—may be added to the pint as a flavor, or the same quantity of brandy or whisky.

The occurrence of hæmorrhage calls for an immediate reduction in the amount of food. The reduction should be positive, and it may be that for a number of hours it is better to give no food at all. When total cessation of food is not deemed necessary, the quantity of milk may be reduced to half an ounce or an ounce every two hours until the danger of hæmorrhage has passed away. The same is true of food in perforation of the bowel.

Most important are correct notions as to the transition from the diet of one actually ill from typhoid fever to that suitable to convalescence. An arbitrary rule of which it may be said that, if it errs, it errs on the safe side, is to adhere to liquid food in the shape of milk or broths, beef-juice, or albumin-water, until the temperature has been normal one week. Then a single soft-boiled egg may be allowed. If nothing happens in twenty-four hours after this, an

egg daily may be allowed. If after two or three days everything goes well, a small dish of very soft milk-toast is to be permitted. If all continues well, a small quantity of boiled rice or of strained, well-cooked oatmeal is added. Next a small piece of steak may be chewed, or, if in season, two or three small raw oysters. And thus one article of food is added after another until a reasonable diet is taken. Chicken is one of the last foods allowed. Even earlier than at the end of a week of normal temperature a raw egg may be given mixed with milk, or perhaps a little sherry or whisky to flavor it if the patient complains of being hungry or it is thought he is not being sufficiently nourished. James Tyson (Penna. Med Jour., Nov., 1900).

## New Books Received.

The editor begs to acknowledge, with thanks, the receipt of the following books:—

**TROPICAL DISEASES.** A Manual of the Diseases of Warm Climates. By Patrick Manson, C.M.G., M.D., LL.D. Cassell & Company, Limited, London, Paris, New York, and Melbourne, 1900.

**TUBERCULOSIS: ITS NATURE, PREVENTION AND TREATMENT.** With Special Reference to the Open-Air Treatment of Phthisis. By Alfred Hillier, B.A., M.D., C.M. Cassell & Company, Limited, London, Paris, New York, and Melbourne, 1900.

**DISEASES OF THE TONGUE.** By Henry T. Butlin, F.R.C.S., D.C.L., and Walter G. Spencer, M.S., M.B. (Lond.), F.R.C.S. Cassell & Company, Limited, London, Paris, New York, and Melbourne, 1900.

**A MANUAL OF CHEMISTRY, INORGANIC AND ORGANIC.** With an Introduction to the Study of Chemistry. By Arthur P. Luff, M.D., B.Sc. (Lond.), F.R.C.P., F.R.C., and Frederic James M. Page, B.Sc. (Lond.), F.R.C. Cassell & Company, Limited, London, Paris, New York, and Melbourne, 1900.

**PEACH-LEAF CURL: ITS NATURE AND TREATMENT.** By Newton B. Pierce. U. S. Department of Agriculture, Washington, D. C., 1900.

## Monographs Received.

The editor begs to acknowledge, with thanks, the receipt of the following monographs:—

**Immunity in Tuberculosis.** By A. D. Lake, M.D., Gowanda, N. Y., 1900.—**A Few Thoughts Indicating a Causative Connection Between the Uric-Acid Diathesis and Arthritism Against the Rule.** By Louis J. Lautenbach, A.M., M.D., Ph.D., Philadelphia, 1900.—**Treatment of Naso-pharyngeal Adenoids.** By Louis J. Lautenbach, M.D., Philadelphia, 1899.—**Increasing the Therapeutic Value of Codliver-oil by the Addition of Free Iodine and Free Phosphorus.** By Louis J. Lautenbach, M.D., Philadelphia, 1900.—**The Role of the Alloxuric Bases in the Production of the Cardio-Vascular Changes of Nephritis.** By Alfred Careno Croftan, A.M., M.D., Pasadena, Cal., 1900.—**Medical Education.** By Edmund W. Holmes, A.B., M.D., Philadelphia, 1900.—**The Deep Fascia.** By Edmund W. Holmes, M.D., Philadelphia, 1899.—**Anatomy of Hanging.** By Edmund W. Holmes, M.D., Philadelphia, 1900.—**Typhoid Fever and Our Water-supply.** By Edmund W. Holmes, M.D., Philadelphia, 1899.—**La Cure de la Tuberculose; Nouvelle Méthode de Traitement.** Par le Docteur E. G. D. de Fraysses, Anvers, 1900.—**Report of the Secretary of Agriculture, Washington, D. C., 1900.**—**Report of the Chief of the Division of Soils for 1900.** By Milton Whitney, U. S. Department of Agriculture, Washington, D. C., 1900.—**Experimentation.** XVII. U. S. Department of Agriculture, Washington, D. C., 1900.—**Chemurgy.** U. S. Department of Agriculture, Washington, D. C., 1900.



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